# SCIENCE & SOCIETY

## A Marxian Quarterly

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# SCIENCE & SOCIETY

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VOLUME III, NUMBER 1, WINTER 1939


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# SCIENCE AND THE ECONOMY OF SEVENTEENTH CENTURY ENGLAND

ROBERT K. MERTON

THE interplay between socio-economic and scientific development is scarcely problematical. To speak of socio-economic influences upon science in general unanalyzed terms, however, barely poses the problem. The sociologist of science is specifically concerned with the *types* of influence involved (facilitative and obstructive); the *extent* to which these types prove effective in different social structures; and the *processes* through which they operate. But these questions cannot be answered even tentatively without a clarification of the conceptual tools employed. All too often, the sociologist who repudiates the mythopeic or heroic interpretation of the history of science lapses into a vulgar materialism which seeks to find simple parallels between social and scientific development. Such misguided efforts invariably result in a seriously biased and untenable discussion.

I

At least three common but unsound postulates must be avoided. The first and most illusive is the identification of personal utilitarian motivation of scientists with the structural determinants of their research. Second is the belief that socio-economic factors serve to account exhaustively for the entire complex of scientific activity; and third is the imputation of "social needs" where these needs are, in any significant sense, absent.

Clark's recent critique[1] of Hessen's essay may be taken to illustrate the confusion which derives from loose conceptualization concerning the relations between the motivation and the structural determinants of scientists' behavior. Clark tends to restrict the rôle of socio-economic factors in science to that involved in utilitarian motives of scien-

[1] G. N. Clark, *Science and Social Welfare in the Age of Newton* (Oxford, 1937). See B. Hessen, "The Social and Economic Roots of Newton's Principia," *Science at the Cross Roads* (London, 1931).

tists and, correlatively, to identify "the disinterested desire to know, the impulse of the mind to exercise itself methodically and without any practical purpose" with scientific activity unconditioned by socio-economic elements.[2] Thus, to illustrate Newton's disinterestedness (in this sense of the word), Clark cites a frequently-reported anecdote to the effect that a friend to whom "he had lent a copy of Euclid's *Elements* asked Newton of what 'use or benefit in life' the study of the book could be. That was the only occasion on which it is recorded that Newton laughed."[3] Granting the reliability of this tale, its relevance to the issue in question is negligible, save on the assumption that persons are invariably *aware* of the social forces which condition their behavior and that behavior is exclusively analyzable in terms of the conscious motivations of the actor.

Motives may range from the desire for personal aggrandisement to a wholly "disinterested desire to know" without necessarily impugning the demonstrable fact that the thematics of science in seventeenth century England were in large part determined by the social structure of the time. Newton's own motives do not alter the fact that astronomical observations, of which he made considerable use,[4] were a product of Flamsteed's work in the Greenwich Observatory, which was constructed at the command of Charles II for the benefit of the Royal Navy.[5] Nor do they vitiate the striking influence upon Newton's work of such practically-oriented scientists as Halley, Hooke, Wren, Huyghens and Boyle. Even in regard to the question of motiva-

[2] *Ibid.*, p. 86; and throughout Ch. 3.

[3] *Ibid.*, p. 91. The original, slightly variant, version is in the *Portsmouth Collection.*

[4] See the correspondence between Newton and Flamsteed, quoted extensively in L. T. More, *Isaac Newton* (New York, 1934), Ch. 11.

[5] It was interest in the improvement of navigation which, according to Flamsteed, the first Astronomer Royal, led directly to the construction of the Greenwich Observatory. (Incidentally, Colbert proposed the Paris Observatory for the same purpose.) A Frenchman, Le Sieur de St. Pierre, visited England and proposed "improved" methods of determining longitude at sea. Flamsteed indicated in an official report that this project was not practicable, since "the lunar tables differed from the heavens." The report being shown to Charles, "he, startled at the assertion of the fixed stars' being false in the catalogue; said with some vehemence, 'he must have them anew observed, examined, and corrected, for the use of his seamen'." Whereupon it was decided both to erect the Observatory and to appoint Flamsteed the Astronomer Royal. See Francis Baily, *An Account of the Rev'd John Flamsteed, compiled from his own manuscripts* (London, 1835), p. 37. To be sure, Flamsteed's salary was but £100 a year. He was privileged to provide himself with all requisite instruments—at his own expense.

tion Clark's thesis is debatable in view of the explicit awareness of scientists in seventeenth century England concerning the practical implications of their research in "pure science." It is neither an idle nor unguarded generalization that *every English scientist of this time* who was of sufficient distinction to merit mention in general histories of science at one point or another explicitly related at least some of his scientific research to immediate practical problems.[6] But in any case, analysis exclusively in terms of (imputed) motives is seriously misleading and tends to befog the question of the modes of socio-economic influence upon science.[7]

Thus it is important to distinguish the personal attitudes of individual men of science from the social rôle played by their research. Clearly, some scientists were sufficiently enamored of their subject to pursue it "for its own sake," at times with little consideration of its practical bearings. Nor need we assume that *all* individual researches are directly linked to technical tasks. The relation between science and social needs is two-fold: direct, in the sense that some research is advisedly and deliberately pursued for utilitarian purposes; and indirect, insofar as certain problems and materials for their solution come to the attention of scientists although they need not be cognizant of the practical exigencies from which they derive.

In this connection, one is led to question Sombart's generalization that seventeenth century technology was almost completely divorced[8] from the contemporary science, that the scientist and inventor had gone their separate ways from the time of Leonardo to the eighteenth century. To be sure, the alliance of the two is not equally secure in all social structures but the assertion of Sombart (and others) that seventeenth century technology was essentially that of the empiric is largely unfounded in the light of the many scientists who turned their theoretical knowledge to practical account. Wren, Hooke, Newton,

[6] Documentation supporting this statement may be found in my *Science, Technology and Society in 17th Century England* (Bruges, 1938).

[7] For a systematic treatment of this problem, see Joseph Needham, "Limiting Factors in the Advancement of Science as Observed in the History of Embryology," *Yale Journal of Biology and Medicine*, VIII (1935), p. 1-18.

[8] See Werner Sombart, *Der moderne Kapitalismus* (Munich, 1921), I, p. 466-67. The metaphor is highly appropriate in view of the remark by Oldenburg, the quondam secretary of the Royal Society, that the natural philosophers sought "the Marriage of Nature and Art, [whence] a happy issue may follow for the use and benefit of Humane Life," *Philosophical Transactions*, I (1665), p. 109.

Boyle, Huyghens, Halley, Flamsteed—to mention but an illustrious few—devoted themselves to the prosecution of both theory and practice. What is more important, scientists were uniformly confident of the practical fruits which their continued industry would ensure. It was this conviction, quite apart from the question of its validity, which influenced their choice of problems. The grain of truth in Sombart's thesis is reduced to the fact that these men of science were concerned not with furthering the development of industrial machinery for factory use—since this had not developed sufficiently to claim their interest—but with innovations which implemented commerce, mining and military technique.[9] In these fields, to be sure, there is little evidence that "the paths of natural scientists and of technicians had [as yet] intersected," as Sombart expresses it.

Within this context, Clark's criticism of Hessen narrows down to a repudiation of the thesis that economic factors are alone determinant of the development of science. In company with Hessen I hasten to assent to this undisturbing renunciation. The primitive thesis of exclusively economic determination is no more intrinsic to Hessen's analysis, as he himself indicates (*op. cit.*, p. 177), than to the work of Marx and Engels.

There remains the third problem—of ascertaining social needs—which can best be handled in specific empirical terms. The widely accepted notion that need precipitates appropriate inventions and canalizes scientific interests demands careful restatement. Specific emergencies have often focused attention upon certain fields, but it is equally true that a multitude of "human needs" have gone unsatisfied throughout the ages. In the technical sphere, needs, far from being exceptional, are so general that they explain little. Each invention *de facto* satisfies a need or is an attempt to achieve such satisfaction. It is necessary to realize that certain needs may not exist for the society under observation, precisely because of its particular social structure.[10] It is only when the goal is actually part and parcel of the culture in question, only when it is actually perceived as such by some

[9] Franz Borkenau has perceived this necessary distinction: "Die Naturwissenschaft des 17. Jahrhunderts stand nicht im Dienste der *Industriellen Produktion*, obwohl sie das seit Bacons Zeiten gewünscht hätte," *Der Uebergang vom feudalen zum bürgerlichen Weltbild* (Paris, 1934), p. 3. (Italics mine.)

[10] For a lucid discussion of needs, see Lancelot Hogben's introduction to the volume edited by him, *Political Arithmetic* (New York, 1938).

members of the society, that one may properly speak of a need directing scientific and technological interest in certain channels. Moreover, economic needs may be satisfied not only technologically but also by changes in social organization. But given the routine of fulfilling certain types of needs by technologic invention, a pattern which was becoming established in the seventeenth century; given the prerequisite accumulation of technical and scientific knowledge which provides the basic fund for innovation; given (in this case) an *expanding* capitalistic economy; and it may be said that necessity is the (foster) mother of invention and the grandparent of scientific advance.

## II

The burgeoning of capitalistic enterprise in seventeenth century England intensified interest in more adequate means of transport and communication. St. Helena, Jamaica, North America were but the beginnings of England's great colonial expansion. This and the relatively low cost of water-transport[11] led to the marked growth of the merchant marine. More than forty per cent of the English production of coal was carried by water. Similarly, internal trade enhanced the need for improved facilities for land and river transport. Proposals for turnpikes and canals were common throughout the century.

Foreign trade was assuming world-wide proportions. The best available, though defective, statistics testify to these developments. Imports and exports increased by almost 300 per cent between 1613 and 1700.[12] Wheeler, writing at the very beginning of the century, observed that for approximately sixty years, not four ships of over 120 tons carrying capacity had sailed on the Thames.[13] At Elizabeth's death there were only four merchant ships of 400 tons each in England.[14] The number of ships, particularly those of heavy tonnage, increased rapidly under the Commonwealth, partly in response to the impetus provided by the Dutch War. Ninety-eight ships, with a net

[11] The difference in costs of land and water transportation is strikingly, though perhaps exaggeratedly, indicated by Petty. "The water carriage of goods round the Globe of the Earth is but about double of the price of Land Carriage from Chester to London of the like goods," *Phil. Trans.*, XIV (1684), p. 666.

[12] See the actual figures in E. Lipson, *The Economic History of England* (London, 1931), II, p. 189.

[13] John Wheeler, *Treatise of Commerce* (Middelburgh, 1601), p. 23.

[14] Sir William Monson, *Naval Tracts* (London, 1703), p. 294.

tonnage of over 40,000, were built within one decade (1649-59).[15] Adam Anderson notes that the tonnage of English merchant ships in 1688 was double that in 1666,[16] and Sprat claims more than a duplication during the preceding two decades.[17] The official report on the Royal Navy submitted by Samuel Pepys in 1695 comments upon the notable naval expansion during the century. In 1607, the Royal Navy numbered forty ships of 50 tons and upwards; the total tonnage being about 23,600, with 7,800 manning the ships. By 1695, the corresponding figures were over 200 ships, with a tonnage of over 112,400 and with more than 45,000 men.

A substantial element in the heightened tempo of shipbuilding and the increased size of ships was, as Sombart has suggested, military necessity. Though the growth of the merchant marine was considerable, it did not match that of the Royal Navy,[18] as is evidenced by the comparative statistics assembled by Sombart. Military exigencies often prompted increased speed in shipbuilding as well as improvements in naval architecture.

> Shipbuilding was furthered by militaristic interests in three ways: more and larger ships were demanded, and above all, they were required within a shorter period. The requirements of the merchant marine could have been satisfied by handicraft methods of shipbuilding for yet another century. But these methods became discountenanced by the growing demands of the war marine; first in the construction of warships themselves, and then, of all ships, as the merchant marine was drawn into the stream of development. . . .[19]

Though Sombart is prone to exaggerate the rôle of military exigencies in fostering more efficient methods of shipbuilding, it is clear that this factor combined with the intensified need for a larger merchant marine to accelerate such developments. In any event, available statistical data indicate a marked expansion in both mercantile and

[15] The tonnage figures do not include 17 ships for which the data are not available. Adapted from M. Oppenheim, *A History of the Administration of the Royal Navy and of Merchant Shipping* (London, 1896), p. 330-37.

[16] Adam Anderson, *Origin of Commerce*, III (Dublin, 1790), p. 111.

[17] Thomas Sprat, *The History of the Royal-Society of London* (London, 1667), p. 404.

[18] Werner Sombart, *Krieg und Kapitalismus* (Munich, 1913), p. 179 ff.

[19] *Ibid.*, p. 191.

military marine beginning with the late sixteenth century.[20]

These developments were accompanied by increased emphasis upon a number of technical problems. Above all, the increase of commercial voyages to distant points—India, North America, Africa, Russia—stressed anew the need for accurate and expedient means of determining position at sea, of finding latitude and longitude.[21] Scientists were profoundly concerned with possible solutions to these problems.[22] Both mathematics and astronomy were signally advanced through research oriented in this direction.

Napier's invention of logarithms, expanded by Henry Briggs, Adrian Vlacq (in Holland), Edmund Gunter and Henry Gellibrand, was of incalculable aid to astronomer and mariner alike.[23] Adam Anderson possibly reflects the general attitude toward this achievement when he remarks that "logarithms are of great special utility to mariners at sea in calculations relating to their course, distance, latitude, longitude, etc."[24] Sprat, the genial historiographer of the

[20] "Nos recherches [based on an examination of port-books] montrent à l'evidence que le commerce et la navigation de l'Angleterre faisaient de grands progrès au déclin du XVIe et pendant la première moitié du XVIIe siècle. On n'exagère guère en disant que la navigation anglaise a quadruplé, sinon quintuplé de 1580 jusqu'à 1640." A. O. Johnson, "L'acte de navigation anglais du 9 octobre 1651," *Revue d'histoire moderne*, IX (1934), p. 13.

[21] Hessen, *op. cit.*, p. 157-58.

[22] In a paper read before the Royal Society by Dr. Bainbridge, it was stated: "Nullum est in tota ferè mathesi problema, quod mathematicorum ingenia magis exercet, nullum, quod astronomiæ et geographiæ magis conducit, quam problema inveniendi meridianorum sive longitudinum differentias." From the minutes of the Royal Society as transcribed in Thomas Birch, *History of the Royal Society of London* (London, 1757), IV, p. 311. Among the aims of the Society as stated by Oldenburg in the preface to the ninth volume (1674) of the Philosophical Transactions are: "spreading of practical mathematiques in all our Trade-towns and ports; making great rivers navigable; aiding the Fishery and Navigation; devising means of fertilising barren lands, and cultivating waste lands; increasing the Linnen-trade; producing Latton [*sic*] and salt and saltpetre of our own."

[23] Published in his *Mirifici logarithmorum canonis descriptio* (Edinburg, 1614). It is to be noted that Briggs, who was the first to make Napier's work appreciated and who in 1616 suggested the base 10 for the system of logarithms, wrote several works on navigation. Likewise, that Gellibrand was probably the first Englishman to correct Gilbert's conclusion that magnetic declination is "constant at a given place," by discovering the secular variation of the declination. See his *Discourse Mathematical on the Variation of the Magneticall Needle* (London, 1635).

[24] *Op. cit.*, II, p. 346. Anderson notes likewise Sir Henry Savile's "noble establishment [in 1630] of two professors of mathematics in the University of Oxford; one of which was for geometry, and the other for astronomy. . . . Both which branches of

Royal Society, asserted that the advancement of navigation was one of the chief aims of the group.[25] Hooke, the irascible "curator of experiments" of the Society, who was at once an eminent scientist and probably the most prolific inventor of his time, wrote in this same connection:

> First it is earnestly desired that all observations that have been already made of the variation of the magneticall needle in any part of the world, might be communicated, together with all the circumstances remarkable in the making thereof; of the celestiall observations for knowing the true meridian, or by what other means it may be found. . . . But from a considerable collection of such observations, Astronomy might be made available of that admirable effect of the body of the earth toacht by a loadstone, that if it will (as is probable it may) be usefull for the direction of seamen or others for finding the longitude of places, the observations collected, together with good navigation, which they [the Royal Society] engage to doe soe soon as they have a sufficient number of such observations. . . .[26]

A ballad written shortly after the Society began to meet at Gresham College reflects the popular appreciation of this interest, as is manifest in the following excerpt:

> This College will the whole world measure
> Which most impossible conclude,
> And navigation make a pleasure,
> By finding out the longitude:
> Every Tarpaulian shall then with ease
> Saile any ship to the Antipodes.[27]

Meeting officially as the Royal Society or foregathering at coffeehouses and private quarters, the scientific coterie discussed without end technical problems of immediate concern for the profit of the

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mathematics are well known to be greatly beneficial to navigation and commerce," *ibid.*, I, p. 177.

[25] Sprat, *op. cit.*, p. 150.

[26] Robert Hooke, *Papers*, British Museum, Sloan MSS. 1039, f. 112. See also Hooke's *A Description of Helioscopes, and, Some Other Instruments* (London, 1676), postscript.

[27] *In praise of the choice company of Philosophers and Witts, who meet on Wednesdays, weekly, at Gresham Colledge.* By W[illiam?] G[lanvill]. *Cf.* Dorothy Stimson, "Ballad of Gresham Colledge," *Isis*, XVIII (1932), p. 103-17, who suggests that the author was probably Joseph Glanville.

realm. Hooke's recently published diary discloses the varied pressure exerted upon him by the Society, the King and interested nobles to devote his studies to "things of use."[28] He would frequently repair to Garaways or Jonathans, the coffee-houses in Change Alley, where, with Christopher Wren and others of their company, he would "discourse about Celestiall Motions" over a pot of tea while at nearby tables more mundane speculations engrossed the attention of stock-jobbers and lottery touts. Problems considered at Garaways were often made the object of special inquiry by the Society. In short, the prevailing picture is not that of a group of "economic men" jointly or severally seeking to improve their economic standing, but one of a band of curious students cooperatively delving into the arcana of nature. The demands of economically-derived needs posed new questions and emphasized old, opening up fresh avenues of research and coupling with this a persistent pressure for the solution of these problems. This proved largely effective since the scientist's sense of achievement was not exclusively in terms of scientific criteria. Scientists were not immune from the interest in social acclaim, and discoveries which promised profitable application were heralded far beyond the immediate circle of virtuosi. Scientific achievement carried with it the seldom-undesired privilege of mingling with persons of rank; it was, to some extent, a channel for social mobility. The case of Graunt is well-known. Similarly, Hooke, the son of a humble curate of Freshwater, found himself the friend of noblemen and could boast of frequent chats with the King. The untutored reactions of the laity to the different orders of scientific research might be represented by the contrasting responses of Charles II to the "weighing of ayre," the fundamental work on atmosphere pressure which to his limited mind seemed nothing but childish diversion and idle amusement, and to directly utilitarian researches on finding the longitude at sea, with which he was "most graciously pleased." Attitudes such as these

[28] *The Diary of Robert Hooke,* ed. by H. W. Robinson and W. Adams (London, 1935). For example, note the following entries: "At Sir Fr. Chaplains. Lodowick here about Longitude. Affirmd £3000 premium and £600 more from the States," p. 160. "To Garaways with Sir Ch: Wren, mett Clark and Seignior, discoursed about watches for pocket and for Longitude. . . . Resolvd to complete [measuring?] degree, New Clepsydra ship, New Theory of sound," p. 221. "To Sir J. Williamson. He very kindly called me into his chamber. Spoke to me about the ☿ Experiment, admonisht me to be diligent for this year to study things of use, to make the Kings Barometer . . . ," p. 337.

served to guide a considerable part of scientific work into fields which might bear immediate fruit.[29]

III

This engrossing problem of finding the longitude perhaps illustrates best the way in which practical considerations focused scientific interest upon certain fields. There can be no doubt that the contemporary astronomers were thoroughly impressed with the importance of discovering a satisfactory way of finding the longitude, particularly at sea. Time and time again they evince this predominant interest. Rooke, Wren, Hooke, Huyghens, Henry Bond, Hevelius, William Molineux, Nicolaus Mercator, Leibniz, Newton, Flamsteed, Halley, La Hire, G. D. Cassini, Borelli—practically all of the leading astronomers and virtuosi of the day repeatedly testify to this fact.

The various methods proposed for finding longitude led to the following investigations:

1. Computation of lunar distances from the sun or from a fixed star. First widely used in the first half of the sixteenth century and again in the latter seventeenth century.
2. Observations of the eclipses of the satellites of Jupiter. First proposed by Galileo in 1610; adopted by Rooke, Halley, G. D. Cassini, Flamsteed and others.
3. Observations of the moon's transit of the meridian. Generally current in the seventeenth century.
4. The use of pendulum clocks, and other chronometers, at sea, aided by Huyghens, Hooke, Halley, Messy, Sully, and others.

Newton clearly outlined these procedures, as well as the scientific problems which they involved, upon the occasion of Ditton's claim of the reward for an accurate method of determining longitude at sea.[30] The profound interest of English scientists in this subject is marked by an article in the first volume of the *Philosophical Transac-*

[29] In this connection, see Adam Anderson's remarks on the Royal Society: " . . . its improvements in astronomy and geography are alone sufficient to exalt its reputation, and to demonstrate its great utility even to the mercantile world, without insisting on its many and great improvements in other arts and sciences, some of which have also a relation to commerce, navigation, manufactures, mines, agriculture, &c.," *Origin of Commerce*, II, p. 609.

[30] William Whiston, *Longitude Discovered* (London, 1738), historical preface.

*tions,* describing the use of pendulum clocks at sea.[31] As Sprat put it, the Society had taken the problem "into its peculiar care." Hooke attempted to improve the pendulum clock and, as he says, "the success of these [trials] made me further think of improving it for finding the Longitude, and . . . quickly led me to the use of Springs instead of Gravity for the making a Body vibrate in any posture . . . ."[32] A notorious controversy then raged about Hooke and Huyghens concerning priority in the successful construction of a watch with spiral balance spring. Howsoever the question of priority be settled, the very fact that two such eminent men of science, among others, focused their attention upon this sphere of inquiry is itself significant. These simultaneous inventions are a resultant of two forces: the intrinsically scientific one which provided the theoretical materials employed in solving the problem in hand, and the non-scientific, largely economic, factor which served to direct interest toward the general problem. The limited range of practicable possibilities leads to independent duplicate inventions.

This problem continued to fire scientific research in other directions as well. Thus, Borelli, of the Royal Academy of Sciences at Paris (organized at the suggestion of the perspicacious Colbert), published an offer in both the *Journal des Sçavans* and the *Philosophical Transactions* to explain his method of making large glasses for telescopes or even to send glasses to those persons who were not in a position to make them, so that they might "observe the eclipses of the

[31] Major Holmes, "A Narrative concerning the Success of Pendulum Watches at Sea for the Longitude," *Phil. Trans.*, I (1665), p. 52-58.

[32] Richard Waller, *The Posthumous Works of Robert Hooke* (London, 1705), Introduction. Galileo had apparently described a pendulum clock in 1641; Huyghens' invention in 1656 was independently conceived. Huyghens went on to invent the watch with a spring mechanism. See his description of the invention in the *Phil. Trans.*, XI (1675), p. 272; reprinted from the *Journal des Sçavans*, Feb. 25, 1675. This led to the notorious dispute between Hooke and Oldenburg, who defended Huyghens' priority in actual construction. It is of some interest, in connection with the question of pecuniary motivation, that Hooke, at the meeting of the Society following that at which Huyghens' communication concerning his "new pocket watch" was read, mentioned "that he had an invention for finding the longitude to a minute of time, or fifteen minutes in the heavens, which he would make out and render practical, if a due compensation were to be had for it." Whereupon Sir James Shaen promised "that he would procure for him a thousand pounds sterling in a sum, or a hundred and fifty pounds per annum. Mr. Hooke declaring that he would choose the latter, the council pressed him to draw up articles accordingly, and to put his invention into act." *Cf.* Birch, *op. cit.*, III, p. 191. For further details, see Waller, *op cit.*, Introduction.

Satellites of Jupiter which happen almost every day, and afford so fair a way for establishing the Longitudes over all the Earth." Moreover, "the Longitudes of places at Sea, Capes, Promontories, and divers Islands being once exactly known by this means, would doubtless be of great help and considerable usefulness to Navigation."[33]

It is precisely these examples, with their acknowledged practical implications, which clearly illustrate the rôle of utilitarian elements in furthering scientific advance. For it may be said, upon ample documentary grounds, that Giovanni Domenico Cassini's astronomical discoveries were largely a result of utilitarian interests. In almost all of Cassini's papers in the *Transactions* he emphasizes the value of observing the moons of Jupiter for determining longitude, by means of the method first suggested by Galileo.[34] It is perhaps not too much

[33] *Phil. Trans.*, XI (1676), p. 691-92.

[34] See Leonard Olschki, *Galileo und seine Zeit* (Halle, 1927), p. 274 and 438, and the chapter on "Die Briefe über geographische Ortbestimmung." This method did not enable sufficient precision to be of much practical use. In the paper discussing his discovery of an unusual spot on Jupiter and fixing the period of the planet's rotation, Cassini observes that "a Travellour . . . may make use of it [the rotation] to find the Longitudes of the most remote places of the earth," *Phil. Trans.*, VII (1672) p. 4042. In his discussion of the inequality of the time of rotation of the spots in different latitudes, he indicates the importance of this fact for a more precise determination of the longitude, *ibid.*, VI (1676), p. 683. The announcement of his discovery of the third and fourth satellites of Saturn begins thus: "The Variety of wonderful Discoveries, which have been made this Century in the Heavens, since the invention of the Telescope, and the great Utility that may possibly be drawn therefrom, for perfecting natural Knowledg, and the Arts necessary to the Commerce and Society of Mankind, has incited Astronomers more strictly to Examine, if there were not something considerable that had not been hitherto perceived." Translated from the *Journal des Sçavans*, April 22, 1686; reprinted in *Phil. Trans.*, XVI (1686), p. 79. In the presentation of Cassini's tables for the eclipses of the first satellites of Jupiter, it is remarked that beyond doubt observations of these eclipses best enable the use of portable telescopes for finding the longitude. "And could these satellites be observd at Sea, a Ship at Sea might be enabled to find the Meridian she was in, by help of the tables Monsieur Cassini has given us in this volume [*Recueuil d'observations faites en plusieurs Voiages pour perfectionner l'Astronomie & la Geographie*], discovering with very great exactness the said Eclipses, beyond what we can yet hope to do by the Moon, tho' she seem to afford us the only means Practicable for the Seaman. However before Saylors can make use of the Art of finding the Longitude, it will be requisite that the Coast of the whole Ocean be first laid down truly, for which this Method by the Satellites is most apposite: And it may be discovered, by the time the Charts are compleeted; or else that some Invention of shorter Telescopes manageable on Ship-board may suffice to shew the Eclipses of the Satellites at Sea . . . ," *Phil. Trans.*, XVII (1694), p. 237-38. The latter part of this quotation definitely and lucidly illustrates the way in which scientific and technical research was "called forth" by practical needs. Worthy of note is the fact that Halley

to say that from this interest derived his discovery of the rotation of Jupiter, the double ring of Saturn, and the third, fourth, fifth, sixth and eighth satellites of Saturn[35] for, as he suggests, astronomical observations of this sort were "incited" because of their practical implications. Lawrence Rooke, who was one of the original company constituting the Royal Society, often noted the "nautical value" of these observations.[36] Flamsteed frequently noticed the usefulness of observing the satellites of Jupiter, because their eclipses "have been esteemed, and certainly are a much better expedient for the discovery of the Longitude than any yet known."[37]

Newton was likewise deeply interested in the same general problem. Early in his career, he wrote a now famous letter of advice to his friend, Francis Aston, who was planning a trip on the Continent, in which he suggested among other particulars that Aston "inform himself whether pendulum clocks be of any service in finding out the longitude." In a correspondence which we have reason to believe ultimately led Newton to the completion of the *Principia,* both Halley and Hooke urged Newton to continue certain phases of his research because of its utility for navigation.[38]

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was commissioned by the Admiralty "to continue the Meridian as often as conveniently may be from side to side of the Channell, in order to lay down both coasts truly against one another" as well as to observe "the Course of the Tides in the Channell of England . . . " See his letter of June 11, 1701 to Burchett in *Correspondence and Papers of Edmond Halley,* edited by E. F. MacPike (Oxford, 1932), p. 117-18.

[35] The third (Tethys) and fourth (Dione) satellites were discovered in 1684; the fifth (Rhea) in 1672; the sixth (Titan) and eighth (Japetus) in 1671.

[36] See "Mr. Rook's Discourse concerning the Observations of the Eclipses of the Satellites of Jupiter," reprinted in Sprat, *op. cit.,* p. 183-90. Rooke was Gresham professor of astronomy from 1652 to 1657; and Gresham professor of geometry from 1657 until his death in 1662.

[37] *Phil. Trans.,* XII (1683), p. 322. Flamsteed elaborated this view more pointedly in other papers on the same subject. See *Phil. Trans.,* XV (1685), p. 1215; XVI (1686), p. 199; XIII (1683), p. 405-7. In passing it might be noted that Leibniz invented a portable watch "principally designed for the finding of the longitude." See his paper in *Phil. Trans.,* X (1675), p. 285-88.

[38] This is the type of evidence which G N. Clark overlooks entirely when he writes that "the one piece of evidence which can be adduced to show that during his great creative period he [Newton] was actuated by an interest in technology is the letter to Francis Aston . . . ," *op. cit.,* p. 67. See Hooke's letter to Newton (Jan. 6, 1680) in which he writes: " . . . the finding out the proprietys of a curve made by two such principles [one of which was the hypothesis of attraction varying inversely as the square of the distance!] will be of great concerne to mankind because the invention of the longitude by the heavens is a necessary consequence of it." See the letter in W. W.

In 1694, Newton sent his well-known letter to Nathanael Hawes outlining a new course of mathematical reading for the neophyte navigators in Christ's Hospital, in which he criticized the current course, saying in part, that "the finding the difference of Longitude, Amplitude, Azimuts, and variation of the compass is also omitted, tho these things are very useful in long voyages, such as are those to the East Indies, and a Mariner who knows them not is an ignorant."[39] In August, 1699, Newton made public an improved form of his sextant (independently invented by Hadley in 1731), which in conjunction with lunar observations might enable the finding of the longitude at sea. He had already presented the initial outlines of his lunar theory in the first edition of the *Principia*. Furthermore, it was upon Newton's recommendation that the Act of 1714 was passed for a reward to those persons who should devise a successful method for ascertaining longitude at sea.[40] In the course of these activities, Newton was demonstrating his awareness of the utilitarian implications not only of much of his own scientific work, but also that of his contemporaries.

Newton's lunar theory was the climactic outcome of scientific concentration on this subject. As Whewell suggests,

> The advancement of astronomy would perhaps have been a sufficient motive for this labour; but there were other reasons which would urge it

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Rouse Ball, *An Essay on Newton's Principia* (London, 1893), p. 147. Likewise, Halley, in his letter of July 5, 1687, writes: "I hope . . . you will attempt the perfection of the Lunar Theory, which will be of prodigious use in navigation, as well as of profound and subtle speculation." Complete letter is quoted *ibid.*, p. 174.

[39] Newton's letters to Hawes are published in J. Edleston, *Correspondence of Sir Isaac Newton and Professor Cotes* (London, 1850), p. 279-99. An examination of the scientific preparation which Newton deemed necessary for a properly trained mariner finds that it includes a smattering of a substantial part of the physical research most prominently prosecuted during this period. In the list Newton mentions the subjects and problems with which not only he was chiefly concerned in the course of his own scientific career, but also his confreres. He indicates further that he was far from unaware of the practical bearings of the greater part of his abstruse discussions in the *Principia;* for example, his theory of the tides, the determination of the trajectory of projectiles, the lunar theory, his work in hydrostatics and hydrodynamics.

[40] Edleston, *op cit.*, LXXVI. The importance attributed to the solution of this problem may be gauged from the rewards offered by other governments as well. The Dutch had sought to persuade Galileo to apply his talents to its solution; Philip III of Spain also offered a reward and in 1716, the Regent Duke of Orléans established a prize of 100,000 francs for the discovery of a practical method.

on with a stronger impulse. A perfect Lunar Theory, if the theory could be perfected, promised to supply a method of finding the Longitude of any place on the earth's surface; and thus the verification of a theory which professed to be complete in its foundations, was identified with an object of immediate practical use to navigators and geographers, and of vast acknowledged value.[41]

Halley, who had decided that the various methods for determining longitude were all defective and had declared that "it would be scarce possible ever to find the Longitude at sea sufficient for sea uses, till such time as the Lunar Theory be fully perfected," constantly prompted Newton to continue his work.[42] Flamsteed, and (from 1691 to 1739) Halley also endeavored to rectify the lunar tables sufficiently to attain "the great object, of finding the Longitude with the requisite degree of exactness." Observations of the eclipses of the moon were recommended by the Royal Society for the same purpose.[43]

Another field of investigation which received added attention because of its probable utility is the study of the compass and magnetism in general. Thus, Sprat specifically relates such investigations by Wren to current needs when he states that "in order to Navigation he [Wren] has carefully pursu'd many Magnetical Experiments."[44] Wren himself, in his inaugural address as Gresham professor of astronomy, strikes the same keynote. The study of the magnetic variation is to be pursued diligently for it may prove of great value to the navigator, who may thus be enabled to find the longitude, "than which former Industry hath hardly left any Thing more glorious to be aim'd at in Art."[45] La Hire, remarking that nothing is so troublesome on long sea voyages as the variation of the needle, states that "this put me upon finding out some means independent from Observations to discover the variations at Sea."[46] Henry Bond, Hevelius, Molineux and Mercator were likewise interested in the study of magnetic phenomena with the same general aim in view.[47] Halley, in the famous paper in

[41] William Whewell, *History of the Inductive Sciences* (New York, 1858), I, p. 434.
[42] *Correspondence and Papers of Edmond Halley*, p. 212.
[43] *Phil. Trans.*, XVII (1693), p. 453-54.
[44] *History of the Royal-Society*, p. 315-16.
[45] Christopher Wren, *Parentalia* (London, 1750), p. 206.
[46] *Phil. Trans.*, XVI (1687), p. 344-50.
[47] See *Phil. Trans., passim; e.g.*, III (1668), p. 790; V (1670), p. 2059; VIII (1674), p. 6065.

which he made known his theory of four magnetic poles and of the periodic movement of the magnetic line without declination, emphasized repeatedly the utilitarian desirability of studying the variation of the compass, for this research "is of that great concernment in the Art of Navigation: that the neglect thereof, does little less than render useless one of the noblest Inventions mankind has ever yet attained to." This great utility, he argues, seems a sufficient incitement "to all philosophical and Mathematical heads, to take under serious consideration the several Phenomena . . . ." He presents his new hypothesis in order to stir up the natural philosophers of the age that they might "apply themselves more attentively to this useful speculation."[48] Apparently the currently assiduous work in this field was not sufficient to satisfy his standards. It was for the purpose of enriching this useful speculation that Halley was given the rank of a captain in the navy and the command of the *Paramour Pink* in which he made three voyages. One outcome was Halley's construction of the first isogonic map.

Thus we are led to see that the scientific problems emphasized by the manifest value of a method for finding longitude were manifold. If the scientific study of various possible means of achieving this goal was not invariably dictated by the practical utility of the desired result, it is clear that at least part of the continued diligence exercised in these fields was due to it. In the last analysis it is impossible to determine with exactitude the extent to which practical concern focused scientific attention upon certain problems. What can be conscionably suggested is a certain correspondence between the subjects most intensively investigated by the contemporary men of science and the problems raised or emphasized by economic developments. It is an inference—usually supported by the explicit statements of the scientists themselves—that these economic requirements or, more properly, the technical needs deriving from these requirements, provoked research in particular channels. The finding of the longitude was one problem which, engrossing the attention of many scientists, furthered profound developments in astronomy, geography, mathematics, mechanics, and the invention of clocks and watches.

[48] "A Theory of the Variation of the Magnetical Compass," *Phil. Trans.*, XIII (1683), p. 208-21. See also his addendum, *ibid.*, XVII (1693), p. 563-78.

## IV

Another navigational problem of the period was determining the time of the tides. As Flamsteed indicated in a note appended to his first tide-table, the error in the almanacs amounted to about two hours; hence a scientific correction was imperative for the Royal Navy and navigators generally.[49] Accordingly, from time to time, he drew up several tide-tables accommodated to ports not only in England but also in France and Holland. This work was the continuation of an interest in providing a theory of the tides emphasized by the Royal Society from its very inception. The first volume of the *Transactions* included several papers presenting observations of the time of the tides in various ports. Boyle, Samuel Colepresse, Joseph Childrey, Halley, Henry Powle, and most notably, John Wallis made contributions to this subject.

Newton took up the task as a further basis for the verification of the general law of attraction and, as Thomson remarks, "his theory of the tides is not less remarkable either for the sagacity involved, or for its importance to navigation." His theory accounted for the most evident aspects of the tides: the differences between the spring and neap tides and the morning and evening tides, the effect of the moon's and sun's declination and parallax, and the tides at particular places, making use of the observations of Halley, Colepresse and others to check his calculated results.[50] Halley, seeking as always to minister to the marriage of theory and practice, was not slow to inform the Lord High Admiral of the "generall use to all shipping" to be derived from these researches.[51] It was not, however, until the work of Euler, Bernoulli and D'Alembert, and later of Laplace, Lubbock and Airy, that the theory could be applied with sufficient precision to promise service for practical purposes. Again, one can correlate scientific interests —in this instance, the study of so esoteric a subject as the theory of attraction—with economic exigencies.

Another problem of grave concern for maritime affairs was the depletion of forest preserves to the point that eventually unseasoned wood had to be used in the construction of ships. Timber had be-

[49] *Phil. Trans.*, XIII (1683), p. 10-15; for later tables see *ibid.*, XIV (1684), p. 458 and 821; XV (1685), p. 1226; XVI (1686), p. 232 and 428.

[50] *Principia Mathematica* (London, 1713; second edition), Bk. III, Prop. XXIV, XXXVI and XXXVII.

[51] *Correspondence*, p. 116.

come relatively scarce, both because of its use as fuel and its rapid consumption in the naval wars and the rebuilding of London. The solution to the fuel problem was partially solved by the use of coal for various industries—such as brass and copper casting, brewing, dyeing and ironware, though not for the production of raw iron. The depletion of timber so jeopardized shipbuilding that the commissioners of the Royal Navy appealed to the Society for suggestions concerning the "improvement and planting of timber." Evelyn, Goddard, Merret, Winthrop, Ent and Willughby contributed their botanical knowledge toward the solution of this problem; their individual papers being incorporated in Evelyn's well-known *Sylva*. Not unrelated to such practical urgencies, then, is the fact that one of the "chief activities" of the Society was the "propagating of trees." Furthermore, says Sprat, the members of the Society "have employ'd much time in examining the Fabrick of ships, the forms of their Sails, the shapes of their Keels, the sorts of Timber, the planting of Firr, the bettering of Pitch, and Tarr, and Tackling."[52] This led not only to the study of silviculture and allied botanical studies, but also to investigations in mechanics, hydrostatics and hydrodynamics. For as Newton noted in his letters to Hawes, such problems as the determination of the stress of ropes and timber, the power of winds and tides and the resistance of fluids to immersed bodies of varying shapes are of great utility for the mariner.

Moreover, when one compares the requisites of a man-of-war as enumerated by Sir Walter Ralegh in his *Observations on the Navy* at the beginning of the century with the types of research conducted by the Society, it becomes apparent that all the major problems had become the object of scientific study. Ralegh lists six desirable qualities of a fighting ship: strong build, speed, stout scantling, ability to fight the guns in all weathers, ability to lie easily in a gale, and ability to stay well. Contemporary scientists attempted to devise means of satisfying all these requirements. In many instances they were led to solve derivative problems in "pure science" in the prospect of using their knowledge for these purposes. Thus, Goddard, Petty and Wren investigated methods of shipbuilding with the object of improving existing procedures. Hooke was ordered by the Society to determine the most "stout scantling" by testing the resistance of the "same kinds

[52] Sprat, *op. cit.*, p. 150.

of wood, of several ages, grown in several places, and cut at different seasons of the year."[53] At times in cooperation with Boyle, Hooke performed numerous experiments to "try the strength of wood," and of twisted and untwisted cords. These experiments were in progress at the time Hooke arrived at the law which bears his name (*ut tensio sic vis*).

In order to discover ways of increasing the speed of ships, it is necessary to study the movement of bodies in a resistant medium, one of the basic tasks of hydrodynamics.[54] Accordingly, Moray, Goddard, Brouncker, Boyle, Wren and Petty were concerned with this problem.[55] In this instance, the connection between a given technical task and the appropriate "purely scientific" investigation is explicit. Petty, at the time he wrote that "the fitts of the Double-Bottome [ship] do return very fiercely upon mee," experimented in hydrodynamics to determine the velocity of "swimming bodies." The general connection is established by Sprat in his description of the instruments of the Society.

> [There are] several instruments for finding the velocity of swimming Bodies of several Figures, and mov'd with divers strengths, and for trying what Figures are least apt to be overturn'd, in order to the making of a true theory, of the Forms of Ships, and Boats for all uses.[56]

Christopher Wren, who was for Newton one of "the greatest Geometers of our times," also investigated the laws of hydrodynamics precisely because of their possible utility for improving the sailing qualities of ships.[57] And Newton, after stating his theorem on the manner

[53] Birch, *op. cit.*, I, p. 460.

[54] *Cf.* Hessen, *op. cit.*, p. 158-59.

[55] *The Petty-Southwell Correspondence*, ed. by the Marquis of Lansdowne (London, 1928), p. 117; Birch, *op. cit.*, I, p. 87.

[56] Sprat, *op. cit.*, p. 250. See Hooke's letter to Boyle, in the latter's *Works*, V, p. 537.

[57] It being a Question amongst the Problems of Navigation, very well worth resolving, to what Mechanical powers the Sailing (against the wind especially) was reducible; he [Wren] shew'd it to be a Wedge: And he demonstrated how a transient Force upon an oblique Plane, would cause the motion of the Plane against the first Mover. And he made an Instrument, that Mechanically produc'd the same effect, and shew'd the reason of Sayling to all Winds.

"The Geometrical Mechanics of Rowing, he shew'd to be a Vectis on a moving or cedent Fulcrum. For this end he made Instruments, to find what the expansion of Body was towards the hindrance of Motion in a Liquid Medium; and what degree of impediment was produc'd by what degree of expansion: with other things that are the necessary Elements for laying down the Geometry of Sailing, Swimming, Rowing, Flying, and the Fabricks of Ships." Sprat, *op. cit.*, p. 316. Once again we see how the immediate technical aim leads to the study of derivative problems in science.

in which the resistance of a fluid medium depends upon the form of the body moving in it, adds: "which proposition I conceive may be of use in the building of ships."[58]

The Society maintained a continued interest in under-water contrivances, ranging from diving bells to Hooke's proposal of a full-fledged submarine which would move as fast as a wherry on the Thames. A committee on diving considered leaden "diving boxes" and Halley's "diving bell," which were tested in the Thames and, with more convenience to the spectators than the diver, in a tub set up at one of the weekly meetings. Wilkins laid great stress on the feasibility and advantage of submarine navigation which would be of undoubted use in warfare, would obviate the uncertainty of tides and might be used to recover sunken treasures.[59] Hooke linked many of his experiments on respiration with technical problems deriving from such efforts.

Wilkins introduced the "umbrella anchor" to the Society; a device "to stay a ship in a storm." Wren proposed "a convenient way of using artillery on ship-board," and Halley, pointing out that England "must be masters of the Sea, and superior in navall force to any neighbour," described a method of enabling a ship to carry its guns in bad weather.[60] Petty, fondly hoping "to pursue the improvement of shipping upon new principles," built several of his double-bottomed boats with which the Society was well pleased. Unfortunately, his most ambitious effort, the *St. Michael the Archangel,* failed miserably, which led him to conclude that both the fates and the King were opposed to him.

The Society periodically discussed means of preserving ships "from worms"; a problem which proved greatly disturbing both to the com-

[58] *Principia mathematica,* Bk. II, Sect. VII, Prop. XXXIV, Scholium. To my knowledge, Newton's remark has not been noticed heretofore in this connection. It reads: "Quam quidem propositionem in construendis Navibus non inutilem futuram esse censeo."

[59] John Wilkins, *Mathematical Magick* (London, 1707; 5th edition), Ch. 5. As early as 1551, Tartaglia had suggested a largely effective means for raising sunken ships to the water's surface. Several patents had been granted for "diving engines" since at least 1631. By the help of one of these devices "and good luck," says Anderson, Sir William Phipps "fished up" nearly £200,000 sterling in pieces of eight from a Spanish fleet which had been sunk off the West Indies. See *Origin of Commerce,* III, p. 73. Hooke and Halley, as well as several others, responded to this success with new devices for recovering treasures from the deep.

[60] Wren, *Parentalia,* p. 240; *Correspondence . . . of Halley,* p. 165.

missioners of the Royal Navy and private shipowners. Newton had evidenced interest in this same vexing problem, asking Aston to determine "whether the Dutch have any tricks to keep their ships from being all worm-eaten." No appreciable progress resulted from these discussions, however.

In general, then, it may be said that the seventeenth century men of science, ranging from the indefatigable virtuoso Petty to the nonpareil Newton, definitely focused their attention upon technical tasks made urgent by problems of navigation, and upon derivative scientific research. The latter category is difficult to delimit. Although it is true that a congeries of scientific research may be immediately traced to technical requirements, it appears equally evident that some of this research is a logical development of foregoing scientific advance. It is indubitable, however, in the light of what the scientists themselves had to say about the practical implications of their work, that practical problems exercised an appreciable directive influence. Even that "purest" of disciplines, mathematics, was of primary interest to Newton when designed for application to physical problems.[61]

Some attention was likewise paid to inland transportation although to a less extent than to maritime transport, possibly because of the greater economic significance of the latter. The growing interior traffic demanded considerable improvement. Such improvements, said Defoe, are "a great help to Negoce, and promote universal Correspondence without which our Inland Trade could not be managed."[62] Travelling merchants, who might carry as much as a thousand pounds of cloth, extended their trade all over England,[63] and required improved facilities. Because of the "great increase of carts, waggons, &c., by the general increase of our commerce," says Adam Anderson, the King (somewhat optimistically, no doubt) ordered in 1662 that all common highways be enlarged to eight yards. Characteristically, contemporary scientists also sought to overcome technical difficulties. Petty, with his keen interest in economic affairs, devised several chariots guaranteed to "passe rocks, precipices, and crooked ways."[64] Wren endeavored to perfect coaches for "ease,

[61] E. A. Burtt, *The Metaphysical Foundations of Modern Physical Science* (New York, 1927), p. 210.

[62] D[aniel] D[efoe], *Essays upon Several Projects* (London, 1702), p. 73 ff.

[63] Daniel Defoe, *Tour of Great Britain*, III (London, 1727), p. 119-20.

[64] *Petty-Southwell Correspondence*, p. 41, 51 and 125. "And it seems to me [writes

strength and lightness" and, as did Hooke, invented a "way-wiser" to register the distance travelled by a carriage.[65] Wilkins, possibly following Stevin's invention of a half century earlier, described a "sailing Chariot, that may without Horses be driven on the Land by the Wind, as ships are on the Sea."[66] Likewise, the Society delegated Hooke, at his own suggestion, to carry on "the experiment of land-carriage, and of a speedy conveying of intelligence."[67] Such efforts indicate the attempts of scientists to contribute technological props to business enterprise; in these particular instances to facilitate the possible extension of markets, one of the primary needs of nascent capitalism.

V

In a sense, the foregoing discussion provides materials illustrative only of the connections we have been tracing. We have still to determine the extent to which socio-economic influences were operative. The minutes of the Royal Society as transcribed in Birch's *History of the Royal Society* provide one basis for such a study. A feasible, though in several manifest respects inadequate, procedure consists of a classification and tabulation of the researches discussed at these meetings, together with an examination of the context in which the various problems came to light. This should afford some ground for deciding *approximately* the extent to which extrinsic factors operated.

Meetings during the four years 1661, 1662, 1686 and 1687 will be considered. There is no reason to suppose that these did not witness meetings "typical" of the general period. The classification employed is empirical rather than logically symmetrical. Items were classified as "directly related" to socio-economic demands when the individual conducting the research explicitly indicated some such connection or when the immediate discussion of the research evidenced a prior appreciation of some such relation. Items classified as "indirectly relat-

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Petty] that this carriage can afford to carry fine goods betweene Chester and London for lesse than 3*d* in the pound." With all due honesty, Petty admits that this "Toole is not exempt from being overthrowne," but adds comfortingly, "but if it should bee overthrowne (even upon a heape of flints) I cannot see how the Rider can have any harme."

[65] *Parentalia*, p. 199, 217 and 240.

[66] Wilkins, *op. cit.*, Bk. II, Ch. 2.

[67] Birch, *op cit.*, I, p. 379 and 385; Hooke, *Diary*, p. 418. This subject was discussed at some fifteen meetings of the Society within a three-year period.

ed" comprise researches which had a clear-cut connection with current practical needs, intimated in the context, but which were not definitely so related by the investigators. Researches which evidenced no relations of this sort were classified as "pure science." Many items have been classified in this category which have (for the present-day observer) a conceivable relation to practical exigencies but which were not so regarded explicitly in the seventeenth century. Thus, investigations in the field of meteorology could readily be related to the practical desirability of forecasting the weather but when these researches were not explicitly related to specific problems they were classified as pure science. Likewise, much of the work in anatomy and physiology was undoubtedly of value for medicine and surgery, but the same criteria were employed in the classification of these items. It is likely, therefore, that if any bias was involved in this classification, it was in the direction of over-estimating the scope of "pure science."

Each research discussed was "counted" as one "unit." It is obvious that this procedure provides only a gross approximation to the extent of extrinsic influences upon the selection of subjects for scientific study, but when greater precision is impossible one must perforce rest temporarily content with less. The results[68] can merely suggest the relative extent of the influences which we have traced in a large num-

[68] APPROXIMATE EXTENT OF SOCIO-ECONOMIC INFLUENCES UPON THE SELECTION OF SCIENTIFIC PROBLEMS BY MEMBERS OF THE ROYAL SOCIETY OF LONDON, 1661-62 AND 1686-87

| | Total for the four years | | | |
|---|---|---|---|---|
| | Number | | Per cent | |
| Pure Science | 333 | | 41.3 | |
| Science related to socio-economic needs | 473 | | 58.7 | |
| Marine transport | | 129 | | 16.0 |
| Directly related | | 69 | | 8.6 |
| Indirectly related | | 60 | | 7.4 |
| Mining | | 166 | | 20.6 |
| Directly related | | 25 | | 3.1 |
| Indirectly related | | 141 | | 17.5 |
| Military technology | | 87 | | 10.8 |
| Directly related | | 58 | | 7.2 |
| Indirectly related | | 29 | | 3.6 |
| Textile industry | | 26 | | 3.2 |
| General technology and husbandry | | 65 | | 8.1 |
| Total | 806 | | 100.0 | |

ber of concrete instances.[69]

From this tabulation it appears that less than half (41.3%) of the investigations conducted during the four years in question are classifiable as "pure science." If we add to this the items which were but indirectly related to practical needs, then about seventy per cent of this research had no explicit practical affiliations. Since these figures are but grossly approximate, the results may be summarized by saying that from forty to seventy per cent occurred in the category of pure science; and conversely that from thirty to sixty per cent were influenced by practical requirements.

Again, considering only the research directly related to practical needs, it appears that problems of marine transport attracted the most attention. This is in accord with one's impression that the contemporary men of science were well aware of the problems raised by England's insular position—problems both military and commercial in nature—and were eager to rectify them.[70] Of almost equal importance was the influence of military exigencies. Not only were there some fifty years of actual warfare during this century, but also the two greatest revolutions in English history. Problems of a military nature left their impress upon the culture of the period, including scientific development.

Likewise, mining which developed so markedly during this period, as we may see from the studies of Nef and other economic historians, had an appreciable influence. In this instance, the greater part of scientific, if one may divorce it from technologic, research was in the fields of mineralogy and metallurgy with the aim of discovering new utilizable ores and new methods of extracting metals from the ore.

It is relevant to note that, in the latter years considered in this summary, there was an increasing proportion of investigation in the field of pure science. A conjectural explanation is not far to seek. It is probable that at the outset the members of the Society were anxious

[69] For a more complete discussion of the procedure used and a detailed classification of the categories, see my *Science, Technology and Society in seventeenth century England*, Ch. 10. Appendix A provides illustrations of the items classified in the various categories.

[70] See, for example, Edmond Halley's observation: "that the Inhabitants of an Island, or any State that would defend an Island, must be masters of the Sea, and superior in navall force to any neighbour that shall think fitt to attack it, is what I suppose needs no argument to enforce." In his paper read before the Royal Society and reprinted in *Correspondence . . . of Halley*, p. 164-65.

to justify their activities (to the Crown and the lay public generally) by deriving practical results as soon as possible. Hence, the initially marked orientation toward practical problems. Furthermore, many of the problems which were at first advisedly investigated because of their utilitarian importance may later be studied with no awareness of their practical implications. On the basis of the (perhaps biased) criteria adopted in this compilation, some of the later researches would arbitrarily be classified as pure science.

On the grounds afforded by this study it seems justifiable to assert that the range of problems investigated by seventeenth century English scientists was appreciably influenced by the socio-economic structure of the period.

# THE FASCIST MOVEMENT IN JAPAN

VICTOR A. YAKHONTOFF

HOW far the fascist movement has developed in Japan, and how likely it is to succeed, are questions on which authorities have not agreed. Tanin and Yohan, in their well-known study,[1] argue that a special kind of military fascism is evolving in Japan, while Freda Utley[2] contends that fascism there is unlikely. Such questions can only be answered by an examination of the present historical development of Japan and a discrimination of Japanese from German, Italian and other forms of fascism. If we accept as correct the assertion[3] that fascism is not simply a reactionary dictatorship, but a dictatorship of finance capital which relies on the support of a mass party, united and organized out of the middle classes and certain other groups attracted by the demagogic promises of a better lot, we shall have to inquire whether these conditions already exist in Japan.

The dictatorship of finance capital, it is generally conceded, has become extremely powerful in Japan, as it has in Italy and Germany. Lenin realized that monopoly had assumed the decisive rôle even in the World War and the crisis which followed it. In spite of her tardiness in emerging from seclusion and joining the other imperialist nations in the race for new markets, Japan has rapidly developed a full-fledged monopoly capitalism, and entered a crisis as severe as that in other capitalist nations.

On the other hand, the great mass parties of Italy and Germany are not to be found in Japan. A great number of chauvinistic groups are at work but they remain disunited, and the opposition to their plans is strong enough to prevent them from merging forces and seizing power. The numerous reactionary organizations that are considered fascist, pro-fascist or semi-fascist, all are defenders of mon-

[1] O. Tanin and E. Yohan, *Militarism and Fascism in Japan* (New York, 1934), p. 226.
[2] Freda Utley, *Japan's Feet of Clay* (New York, 1937).
[3] Tanin and Yohan, *op. cit.*, p. 14 f. of the Introduction.

archy, the divine origin of which may not be discussed in Japan. They all deny the existence of any class-war inasmuch as all the Japanese are supposed to be children of the same Emperor, who is benevolent to all alike. They assert the supremacy of the Japanese people, and its mission to liberate the Asiatics from the domination of the Whites. On these doctrines all are agreed; but the varied composition of these groups, their contradictory class interests, and their leadership, so far, have kept them from uniting on the basis of a single platform.

These heterogeneous organizations might be classified into three groups.[4] The first represents the ultra-reactionary elements of the higher bureaucracy and professional patrioteers. It includes such societies as Kokuryu-kai (Black Dragon), Kokusui-kai (Spirit of the Empire) and Kokuhon-shia (National Foundation).[5] Their membership is limited to approximately one hundred in all, but their influence is quite considerable. Viscount Hiranuma, President of the Privy Council, the leader of the Kokuhon-shia, was considered for a time as one of the candidates for a Japanese Hitler, but he seems to have been eliminated because of his advanced age. Two active participants are to be found in most of these groups, Toyama Mitzuru, the founder of the Kokuryu-kai, and Uchida Ryohei, another prominent proponent of "super-gangsterism."[6] In a simplified form, their credo is: defend Monarchy (as a screen), suppress revolutionary tendencies, and use violence and terror whenever you cannot achieve your ends otherwise.

The second group contains a number of organizations with a very large membership, but represents too great a diversity of political purpose to serve as a base for fascism. It includes the Society of Reservists, composed of some three million former officers and soldiers; the Youth Association, and the Women's Patriotic League, with three and a half million members each. These groups include a considerable number of peasants. To a certain extent they are under the

[4] *Cf.* Hayama, *Yaponia* (Moscow, 1936), p. 136 f. We prefer the classification given by this Japanese author to that of Tanin and Yohan, for his book was published two years later, and the constant changes which occur in the composition and names of these groups must be taken into consideration.

[5] Some of the leaders of Kokuhon-shia are opposed to the use of demagogy. They are loath to deal with the masses, and refrain from any contact with them.

[6] These leaders did not shun cooperating with such people as the notorious Tachibana, who was behind a number of political assassinations.

control of the fighting forces, Araki being one of the leaders. Therefore they are considered to be a reservoir for recruiting supporters for any reactionary adventure of military-fascist nature.[7] But not all of their members can be relied upon by the fascists, for the left opposition also is working among them, and with encouraging results.

Finally, the third group is represented by organizations which accept fascist principles more definitely in their German form, since Germany has always been the model of Japanese militarists. All these groups, as, for example, Kinro Nihon-to, or Labor Party, engage in demagogic attacks on capitalism, for they cater to the right wing of labor. Among their members are a number of deserters from the two main bourgeois parties: Seiyu-kai and Minsei-to, as well as former Social-Democrats. The total membership of these groups is limited. They are not mass parties.

If we examine the results of the last general elections, held in April 1937, we see that practically no fascist organization was even represented in the Diet. This was partly because few of them were as yet registered as political parties, but mainly because the electorate refused to support the extreme reactionaries, in spite of the appeals of the government and the military leaders.

The following is a table indicating the composition of the Diet:[8]

| Number of Seats | Name of Party |
|---|---|
| 179 | Minsei-to |
| 175 | Seiyu-kai |
| 19 | Shiowa (Government Party) |
| 37 | Shakai-Taishu-to (Social-Democrats) |
| 11 | Kokumin Domei (Semi-fascist) |
| 11 | Toho-kai (pro-fascist) |
| 25 | Neutrals (including fascists) |
| 5 | Seiji Kakusin Kyogi-kai (fusion of fascists) |
| 4 | Others (including one delegate from the proletarian party, Nippon Musan-to) |

The candidates and parties definitely supporting the government

[7] T. A. Bisson in his *Japan in China* (New York, 1938), p. 236, wrote that by 1937 "the Army leadership, both in personnel and methods, had accomplished its divorce from the strong-armed gangsterism of the previous epoch." In other words, such leaders as Araki gave place to milder elements of the Terauchi type, acting with more understanding of diplomacy, and maneuvering with more skill among the politicians.

[8] I. Zeitlin "Summary of the General Elections in Japan in April 1937," *Tikhii Okean* (1937), p. 204. (In Russian.)

received not more than 1,500,000 votes, carrying about fifty seats, while the opposition carried 415 seats in the Diet with over 8,700,000 votes.[9]

But in spite of this defeat of the reactionary cabinet, the elections of 1937 indicated certain gains by the pro-fascists. According to the estimates of the Japanese magazine *Economisto*,[10] the fascists as a whole received a total of 447,911 votes against 203,163 in the 1936 elections. It is obvious that there are pro-fascists in the two large parties, and it is very likely that if a propitious moment should arise, they would openly join the fascists, as was the case with the bourgeois parties in Germany.

These results indicate that in 1937 the second necessary condition to the development of fascism—namely well-organized mass support—had not been realized. An explanation will be found in the past history of Japan and in her present economic status.

### I. HISTORICAL BACKGROUND OF THE FASCIST MOVEMENT

The history of Japan discloses a number of unique conditions which affect the possible development of Nipponese fascism. First of all, feudalism prevailed in Japan long after it had given way to capitalism in most European countries. As a result, there are still present in Japan numerous features of feudalism along with conditions considered normal under capitalism.

One form of surviving feudalistic paternalism affects the relation of the State toward its privileged sons. This was seen in the unusually generous support given by the treasury to the pioneers in industry, shipbuilding, transportation, and foreign trade. Subsidies are still sought and frequently granted. Paternalism in industry, perpetuating ridiculously low wages, resembled to some extent company unionism in its crudest form. Paternalism in agriculture, under which farmers paid up to 50% of their crop as rent, kept farmers under the control of the landlords. Paternalism in government services, and especially in the Army and Navy, preserved antiquated forms of relationship

[9] The two main bourgeois parties, the Seiyu-kai and the Minsei-to, united their forces, not to combat the fascists, but to overthrow the Hayashi cabinet, which had ordered the dissolution of the Diet and the new elections. Openly voting against the fascists were only the Socialists (Shakai Taishu-to) and the "proletarians" (Nippon Musan-to), who elected Kato. Some of the reactionaries abstained from voting, because they oppose the very idea of parliamentarism.

[10] February 5, 1937.

between seniors and subordinates. Feudal codes of relationship, enjoining humility, respect of authority and obedience, proved very convenient for the lords; they were not less convenient for the ruling classes long after the feudal system had been discarded. Today the great landlords, absentees for the most part, have more interest in industries and in the quotations on the Stock Exchange, than in their land holdings. With agriculture yielding diminishing returns and rent declining to less than five per cent in recent years, large and middle landholders entered industrial, banking, and commercial fields, which were more promising. Landlord paternalism was transformed into a kind of industrial paternalism with all the rights and privileges on the side of the employer.

Another survival of feudalism in Japan, and possibly a more important one, is the dominance of military men. The present unusual powers of the Army and Navy, which are directly responsible to the Emperor and apparently independent of the Prime Minister, can in part be traced to the exclusive position of the soldiery under the feudal system, manifested in the peculiar form of the Shogunate. Under it the warriors were the most important, the most privileged, the most powerful among the people. The Shogun was above all the military head of the country; he performed most of the other functions of the sovereign simply because, having usurped the authority of the Emperor, he was obliged to attend to the affairs of the state as well. But the social prominence of the military elements was gradually declining even under the Tokugawa Shogunate. The relative peacefulness of that period did not require much of the warfare in which the Samurai had excelled in previous epochs. Indulging in an easier life, lavishly spending their declining incomes (for very few among them ever interested themselves in money-making), these warriors gradually became impoverished, and the absolute power formerly held by the military class was eventually taken over by the merchant class, who placed the former under their economic yoke.

Today the military class is powerful, indeed, but its training and statesmanship, and especially its aspirations, hardly qualify it for the leading rôle in state affairs. The new theories advocated by the military groups, like Araki's "Way of Showa," are no more than programs for strict regimentation of the people for the sole purpose of making the continued aggression easier. Their philosophy is little more than

the old glorification of country, deification of the Emperor, and adoration of themselves as the best and purest patriots and builders of the Empire. Economics is as a rule left to those who know better although Colonel Hashimoto, former Military Attaché at Moscow, advocated fascism as the antidote to Communism, and other officers advocated the introduction of National Socialism.

We do not minimize the influence of the military class in Japan, for it is great. But we regard as exaggerated the estimate of its chances made by Tanin and Yohan. The expression "military fascism" describes Japanese fascism no better than it would German fascism. The military groups working in reactionary and pro-fascist organizations may actually retard the development of the fascist movement, since they are not ready to cooperate with those who are in control of the economic life of the country, and are fearful of becoming more dependent upon them.

There is a decided rivalry between the military and the civilians, which might be explained in terms of the old distribution of power under the Shogunate,[11] but would be better ascribed to the fact that the military people always are detached from the economic aspects of life. Theirs is the duty to defend, to conquer, and to get as much as they can from the authorities, not to perform the work of building, of creating or improving the economic status of the country. Those who are engaged in the production and distribution of goods, those who have to economize, are not easily understood by the fighting forces in any country, least of all in Japan. They argue that the military men are the heroes who built the empire; the unselfish defenders of the country. Who would dare to compare them with the money-makers, with the corrupt, unreliable, and selfish politicians? This hostility of the two groups may make their cooperation difficult for a long time to come.[12] To this must be added other hostilities, some of which carry over from feudal times. There is the animosity between locali-

[11] Ieyasu Tokugawa promulgated a law prohibiting sword-wearing by merchants, artisans and farmers. The fighting power was limited to the Samurai class, i.e., the feudal lords and their soldiers and officials.

[12] T. A. Bisson, describing the events preceding the war, writes in his *Japan in China*: "A new factor of basic significance was thus introduced into Japan's political struggle. The solid wall of capitalist opposition to the Army's internal program, which had existed during Takahashi's reign over the Finance Ministry, was crumbling," p. 239. Capitalists were willing to cooperate in making profits from the war boom, that is clear, but were still far from willing to submit to the dictates of the militarists advocating fascism.

ties and clans, the jealousy between the Army and the Navy, between the Satzuma people and the Nagato people, all of which retards the unification of the fascist forces.

Other heritages from the past, however, act in the opposite direction, and aid the fascist movement. Emerging from centuries of seclusion, the Japanese retained a suspicion of foreigners which was soon confirmed by the contempt and abuse they suffered at the hands of the powerful, economically developed nations. Foreigners did a great deal to alienate the Japanese. Extraterritoriality was not the only issue on which friction developed. Abuses were multiform and numerous. The result was that the normal self-respect and esteem for the glorious past of their country developed into an inflated self-adoration and contempt of others. The idea of a special mission assigned to the people of Nippon (an idea essential to any brand of fascism) was greatly advanced by these circumstances.

## II. THE SHAKY ECONOMIC FOUNDATION

It was upon a weak economic foundation that Japan started her ambitious plan of building a colonial empire, for she relied upon an antiquated agrarian system and upon handicrafts and small-scale home industries. Soon after the Restoration of 1868 she entered upon an extremely difficult period of her economic history. Energetically reshaping her national policy towards rapid industrialization, she soon discovered that her own resources were inadequate for a large-scale modern industry designed for foreign trade. Her area was limited, precluding any real extension of agriculture, and the domestic market was narrowly restricted. Foreign markets and raw material needed imperatively were supplied in part by the incorporation of Formosa, Korea, Kwantung and Southern Sakhalin into the Empire. Japan acquired in this way not only enlarged resources of food and raw materials, but also control over many additional millions of workers. As a result, she was able to accumulate, between the Russo-Japanese conflict and the beginning of the World War, a large capital in money and industrial equipment. By the latter part of 1916 Japan was already producing annually over one billion five hundred million yen worth of manufactured goods, and was thus able to offer her industrial facilities to help the Allies, and to provide various goods which the latter needed urgently.

Accepting numerous large orders for war materials and other commodities, Japan expanded her industries to cope with these demands. By the end of the World War she was producing goods worth 7,387,000,000 yen, or almost five times as much as she did at its outbreak. With the signing of the Armistice, however, the war boom abruptly ended. The hastily enlarged, and therefore unhealthy, industrial structure of Japan, now deprived of adequate orders, collapsed, causing an acute crisis.

After the post-war crisis (1919-1921) Japan resumed her industrial development, but in 1923 the great earthquake wrought havoc with all her policies. All plans had to be reshaped to meet the emergency. Nevertheless, industry continued to grow rapidly up to 1929, when the world-wide economic crisis affected Japan as it did other capitalist countries. But the expansion of her industry was merely temporarily retarded. It soon renewed its advance to meet the extraordinary situation resulting from the Manchurian affair.

If before 1894 Japan had very little that was comparable with the modern industries of the Western countries, there were by 1920 more than forty-six thousand factories employing 1,742,000 workers. These figures do not include small industrial enterprises employing less than five workers, nor mining and government enterprises. By 1932 the number of large and medium-sized enterprises had risen to 67,318, but with about the same number of operatives as in 1920. The years that followed were marked by the continuance of industrial activity stimulated by a munitions-boom and by aggressive foreign trade. Naturally, the process of further industrial expansion was not checked. The tempo, indeed, was remarkable, and the results imposing.

A number of defects were apparent, however, in this economic structure. One of them was the unusually high percentage of the so-called "light" industries, producing consumers' goods, especially textiles, largely for export. The result was that heavy industries, such as metallurgy and machine-building, had for a long time a secondary place, employing only eighteen per cent of the total number of workers and contributing less than sixteen per cent of the total value. This left the country seriously dependent on foreign markets not only for the raw materials, but also for many important manufactured items, some of them indispensable in case of war.

Rapid as it was, the transformation of the medieval Japan of the

Tokugawa period into the kind of modern state that she has striven to become since 1868, has not been accomplished thoroughly enough to guarantee economic stability and undisturbed development. Even today Japan is not strong as an industrial nation. Her products were, and in many instances still are, decidedly inferior to those of other countries, and alongside of the efficient up-to-date large-scale industries, sometimes run with the support of the state, we find surviving handicrafts and home industries. Between these two extremes, there are numerous industrial enterprises, mostly small, employing very often less than five workers each, and using antiquated equipment and methods.[13]

The rapid industrialization of the country and its expansion required resort to credits. By 1937 the total of debts, foreign and domestic, was approximately 13,000,000,000 yen. Moreover, owing to the continued unfavorable balances of her foreign trade, Japan lost a considerable part of her gold reserve which had been accumulated up to 1919; and by 1937 she possessed not more than an equivalent of four hundred million American dollars. For several years no budget was balanced without resort to credit, which, because of the international situation, was limited to the issuance of bonds at home. The population was unable to buy bonds, and therefore most of these were placed with the banks. For this reason there were discernible long ago numerous signs of uncertainty and weakness in Japan's finances. It became obvious that the country was living beyond its resources, and was in danger of a financial catastrophe.

### III. THE PRESENT CRISIS

In 1936 we were able to write:

There is no escape from the general conclusion that Japan faces a grave, widespread and multiform crisis. It is foreshadowed in her economic and social life, in her political as well as her cultural status, and in her relations with the rest of the world.

It would be foolish, of course, to ascribe all this merely to the fact that in her hasty transformation Japan has stressed modernization of her economic structure without making commensurate changes in the social structure. Nevertheless, this seems the cardinal cause of her malady. The

[13] For somewhat more detailed discussion of this subject see the author's *Eyes on Japan*, p. 108-136, and John E. Orchard's *Japan's Economic Position* (New York, 1930).

bonds of feudalism, far from being shaken off, have been drawn still tighter under pressure of the poorly adapted new system; while the discrepancy between the growing demands of the state for industrial and territorial expansion—not to mention the unduly high recompense demanded by the private and privileged entrepreneurs—and the retarded economic welfare of the productive elements of the country have combined to render dangerously shaky the very foundations of Japan's national economy.

The constantly growing demands for military expenditures dictated by advocates of unlimited expansion without proper consideration of the status of the treasury, were alone sufficient to necessitate an aggressive trade policy; and to say that such a trade policy has proved disadvantageous is putting the matter mildly, since eventually it developed into a dumping system which is a drain upon a national wealth that was never very great. The exporters engaged in that practice have, of course, made profits; the bankers, who financed the trade, have seen their funds returned with lucrative gains. But those who produce the goods are forced to stand the cost. The industrial workers have been badly underpaid, while the farmers are practically not recompensed at all. For a number of years the tillers of the soil rarely were able to get enough for their produce to offset expenses of production, let alone the payment of taxes and the meeting of debts. Very often they were unable even to make ends meet or to keep their families from starvation.[14]

The economic consequences of such a state of affairs were naturally disastrous, and the social repercussions more than disturbing. The number of industrial disputes, lockouts and strikes, and agrarian conflicts was mounting. The acquisition of Manchukuo proved to be a fiasco; instead of alleviating the economic woes of Japan it has increased them. Enormous expenses involved in the occupation, pacification, and attempted exploitation of this new colony only further drained the treasury and the almost empty pockets of the population as well. The renewed aggression in China that was started by the Marco Polo Bridge incident in July, 1937, was possibly planned as a remedy, but it actually aggravated the already desperate situation.

A protracted war was not contemplated by the rulers of Nippon, who expected to add a new slice of China to their domain by a lightning stroke. The reserves of various goods accumulated in prepara-

[14] Victor A. Yakhontoff, *Eyes on Japan*, p. 266.

tion for war were soon exhausted, and the meagre gold reserve had to be used for replenishments, for no loans abroad were feasible.[15] The daily expenses were enormous (some $5,000,000 per day) and constantly mounting; the million or so men mobilized for service left many industries short-handed. Scarcity of raw materials and lack of funds for purchasing them abroad necessitated the curtailing of production and thereby undermined foreign trade. Japan felt the pinch of economic crisis as never before.

With martial affairs becoming predominant, it was only natural that the military groups became even more powerful than before. Everything was subordinated to the requirements of war. The establishment of a special State Council (Cabinet Advisory Board) containing a large number of generals and admirals served the same end. The opening of the Imperial Headquarters brought them into still closer contact with the sovereign. The cabinet, under Prince Konoye, with an unprecedented percentage of generals and admirals, included such definitely pro-fascist personages as General Araki in the post of the Minister of Education, and Admiral Suetzugu, the Minister of Interior, and the less-definitely pro-fascist General Ugaki, as Minister for Foreign Affairs.[16] The whole country seemed to be delivered over to the dominance of the military clique.

Not without certain opposition, the jingoes succeeded in passing through the Diet on March 4, 1938, a bill for general mobilization, which secured for them (only nominally so far) an almost unrestricted control over the resources of the country. For the time of war the government is authorized (in Clause 2) to mobilize any and all material resources. There are only nine categories of commodities specifically listed, but under these nine headings anything might be included. In listing the factories, shops and various institutions which are liable to mobilization (Clause 3), the bill is so elastic as to make any of them liable if so desired by the authorities. Conscription becomes universal for it covers not only those who enter the fighting forces, but anyone who might be needed to expedite the war, and first of all, of

[15] From March, 1937, to August, 1938, over $350,000,000 in gold was shipped by Japan to the United States alone. It does not mean that the entire balance of gold in Japan is only $50,000,000, but it must be very low, most likely under $200,000,000.

[16] General Ugaki has his own group of "liberal" conservatives; its stand is close to that of the higher bureaucrats, namely: for monarchy, against sweeping changes, against revolution.

course, labor (Clauses 4 and 5). The wages, hours of work, anything pertaining to every kind of work required for the country while at war, can be regulated by the government. By special decrees the government may prohibit strikes and other manifestations of capital-labor disputes (Clauses 6 and 7). The bill authorizes the government to regulate, curtail and prohibit, if necessary, export and import of any commodities (Clause 9). It receives the power of regulating business transactions of any and all private enterprises (Clauses 10 to 13). For the needs of the war it may confiscate the property of any mining or public utility concern (Clauses 14 and 15). The government is also authorized by the bill to regulate prices and rates for shipping, transportation, and insurance (Clause 19). It is authorized to use its discretion in allowing or prohibiting publications, and may confiscate what has already been published (Clause 20). It is, of course, in control of banking transactions, in particular of foreign exchange.[17]

This document seems to be as complete a surrender of rights and liberties as could be imagined. If the clauses affecting labor and civil liberties are ever carried out with full effect, Japan will have become a fascist state.

## IV. CONCLUSIONS

In great measure Japan is already a fascist state, although the term has not so far been used. Labor, held down to pitiful wages, and to a standard of living almost inconceivable to Americans, is allowed scarcely any voice to protest its fate. Even liberals are almost completely silenced by the present government of generals and admirals, who execute the will, not so much of the Emperor, who is largely symbolic, but of the great industrial and banking interests. Japan also shows the fascist contempt for international treaties and covenants, and has embarked on wars and aggressions to solve internal problems and quell unrest at home.

Fascism, however, has not completely triumphed in Japan. Hostilities between ruling clans, cliques, business groups and military factions present great obstacles, as we have seen, to the unification of the fascist forces. Japanese labor, though poorly organized and often misled by its so-called leaders, had sufficient strength in 1937 to elect some forty deputies to the Diet. Though this was less than ten per

[17] As published in the *Japan Times* (February 20, 1938), quoted from the Russian translation given in the *Tikhii Okean*, III (1938), p. 122-124.

cent of the total number, and only one of them was elected by a "proletarian party," the Nippon Musan-to, it is clear proof that fascism in Japan has not yet wreaked its full will. Soon after the outbreak of the present hostilities in China, the government, which seems to be working hard for fascism, ordered the arrest of a considerable number of those whom it identified with "radical" labor activities and accused of harboring "dangerous thoughts." This naturally included Kato Kanju, the delegate of the Nippon Musan-to,[18] who had been elected by a very imposing majority.

Japanese reactionaries will attempt further steps toward fascism. They aim to smash the labor movement altogether and to perpetuate or resurrect a feudalistic paternalism which reduces the worker to servile and hopeless dependence. Moreover, they strive to overcome the conflicts within the bourgeoisie by the formation of a pro-government party to supplant the present political parties. They likewise endeavor to combat internal conflicts by intensive preparation for war and conquest, first against China, ultimately against the Soviet Union. The messianic mission, so necessary to justify aggression, is supplied meanwhile by the virtues of old Japan (Yamato-damashi) with which the people have been indoctrinated through many centuries.

But fascism, in our opinion, is not inevitable in Japan. The means of combating it are a consolidation of all the forces which stand to lose by its success—labor, the farmers, and the middle class—and since these constitute the overwhelming majority of the population, despair is in general out of place.

The war in China, which has entailed great privation and hardships, has never been really popular with the industrial workers or the farmers, among whom, slowly but surely a mass resentment is rising.[19] The increasing misery, entailed by a prolonged and unsuccessful war

[18] Even this "proletarian party" had a very mild program, for otherwise it could not have existed. The Communist Party of Japan is outlawed, and works underground only. Its membership is obviously very limited, although latterly communism is gaining followers not only among the intelligentsia but among the working masses as well.

[19] The farmers of Japan frequently revolted in the past. "At the end of the Ashikaga period (1338-1573) many semi-soldiers and semi-farmers appeared besides the real soldiers, and finally their power became so much increased that even the military forces of the feudal lords could not exterminate them," says Takekoshi Yosaburo in *The Economic Aspects of the History of the Civilization of Japan* (New York, 1930), I, p. 329. The feudal lords were afraid of the peasants. Peasants have participated in numerous "rice riots" in recent years, and sent petitioners to the capital to demand attention to their plight.

with the promise of victory ever receding, may fan the present discontent into widespread revolt, while the knowledge that it is their own Japanese lords, military and financial, who are responsible, may give it direction. The war which was to be the salvation of the present rulers of Japan may prove their undoing.

Although the very large middle class of Japan, comprising small businessmen, petty landowners, and functionaries, are more and more impoverished as the war continues, they have shown little tendency to resist the war-makers. Indoctrinated with the fear of revolution, and rendered desperate by the losses of the war, they may be more persuaded by the fascist promises of restored property and status, than mindful of the fate of their own class in Germany and Italy. But events in China may reverse this state of affairs.

Some degree of opposition to the fascists can be expected within the imperial court and aristocracy and in a certain section of the senior bureaucracy (for example, the only surviving Genro, Marquis Saionji, elder adviser to the throne, is against it). These men fear that a violent change would not improve their position. Many influential business men are also opposed, preferring to make their profits without state interference, especially under military auspices. Moreover, the old political parties are still not ripe for a merger with extremists of the Araki type; they are loath to lose their prestige and jobs, and are not eager to be commanded by "ill-mannered soldiers." And the military people, too, are in no hurry to combine with the civilians.[20]

Evidence of the opposition to fascism is furnished by the fact that the government has not yet dared to use the unlimited powers given it under the National Mobilization Bill. At this stage it prefers not to break with the numerous dissenters, for the war is not progressing as successfully as the militarists expected, and the government must proceed cautiously to avoid internal breakdown and revolt. Fascism's development will chiefly depend upon events in China and the extent of the awakening of organized opposition among the people of Japan.

[20] "Hayashi's efforts at complete suppression of the remnants of parliamentarism had led to an outright clash with the parties. Hayashi's tactic in this respect was accepted on all sides as a serious blunder. It had widened the gap between the army and the people and strengthened the left wing in each of the parties, reflecting the anti-fascist, anti-government, and anti-war sentiment of the country at large," writes Bisson, *op cit.*, p. 269-70. But actually the new Cabinet, that of Konoye, was made of the same reactionary elements as was that of his predecessor.

# COURBET AND HIS CONTEMPORARIES, 1848-1867

OLIVER LARKIN

BECAUSE Courbet was so long a prophet without honor in his own country, a large proportion of his work is owned by museums and collectors outside France. Many phases of his career, notably his activities during the Commune, are still imperfectly understood. Before 1900 scarcely a single French art journal of repute cared to publish material on the painter. Belatedly in 1919, when New York's Metropolitan Museum was honoring the centenary of his birth, France bought the *Atelier* for seven hundred thousand francs. Two years later, Léonce Bénédite was invited to represent the State at the unveiling of a tablet placed on Courbet's birthplace at Ornans. The Curator of the Luxembourg declined to attend the ceremony on the ground that he had "received counter-instructions." Thus by neglect and by misinterpretation French art circles have prolonged almost to our own day the injustice and hatred of which, before he died in 1877, he suffered the full weight. Such a campaign has been too persistent and too nearly unanimous to be understood merely as the continuation of a quarrel among esthetic theorists. What forces combined both to defend and to attack Courbet, and why were his enemies so tragically successful? What variety of motives, both artistic and non-artistic, went into the making of this famous controversy over naturalism, so much more bitter and so much more relentless than most doctrinal squabbles in art? To answer such questions one must recognize, in the words of George Boas, that "any artistic movement spreads beyond the limits of a particular art to the various non-artistic activities which characterize an epoch." An experiment to demonstrate this correlation was conducted in May, 1938, under the auspices of the Baltimore Museum of Art, in the form of a symposium on Courbet to which philosophers, art scholars, musicians, scientists and literary critics contributed. The materials presented by them served also towards the formation of a more inclusive concept of naturalism than was possible

so long as the movement was described primarily in terms of its leading personalities, or visualized as an exclusively artistic revolution.[1] The Baltimore symposium was a step in the right direction. Further clarification of the meaning of naturalism, and its significance for us, will in part depend on a study of the relation between art and the social, political and philosophical currents manifest between 1848 and 1872, more close and detailed than the one attempted at Baltimore.

With few exceptions, the standard biographers of Courbet[2] have either ignored the artist's public life as irrelevant, or uncomfortably shied from it as a disgraceful performance about which the less said the better. A few typical dicta will make this clear. "Even if Courbet was a friend of Proudhon, he was nevertheless a genius . . . Courbet as a philosopher, a moralist, a politician, seems to us a plain fool . . . Politics has nothing in common with art" (Henri d'Ideville). The alleged "social content" of Courbet's paintings was invented by his radical friend Proudhon (Georges Riat). Our generation must forget the man in his works because "his works are as admirable as the man himself was odious and tiresome" (Léonce Bénédite). Courbet was the naive victim of politicians who used him for their own advantage (Théodore Duret). He was a "great harmless fellow intentionally misrepresented as a terrible social revolutionary" (Charles Léger). To be sure, to grant that the painter of Ornans was intellectually inferior to those whose social ideals he supported, that vanity had much to do with his becoming Proudhon's *alter ego*, and that the social connotation of his work was not of his own making, is to grant the obvious. Equally obvious is the fact that Courbet's career as painter, and his relation to French art as a whole, were profoundly influenced by what he came to feel was his mission in society, and by the ammunition he provided for the opponents of realism by what he said and what he did as democratic republican, Proudhonist and Communard.[3]

[1] Ten of the eleven papers read at these meetings have been published by the Johns Hopkins Press under the title, *Courbet and the Naturalistic Movement* (Baltimore, 1938). The remark by Professor Boas is quoted from his foreword to this book, p. v.

[2] The most informative are: Henri d'Ideville, *Gustave Courbet, Notes et Documents sur sa Vie et son Oeuvre* (Paris, 1878); A. Estignard, *Gustave Courbet, sa Vie et ses Oeuvres* (Besançon, 1896); Georges Riat, *Gustave Courbet, Peintre* (Paris, 1906); Théodore Duret, *Courbet* (1918); Charles Léger, *Courbet* (Paris, 1929).

[3] Several of the speakers at Baltimore dealt to some extent with the social implications of naturalism. Professor Boas, after summarizing the attacks made upon Courbet's "insincerity," his desire to shock, his artistic incompetence, and his preference for the

The following notes are intended to suggest why realism came to be associated with democratic utopianism; how the coming together of young painters and social theorists affected them both; how the battle between two artistic groups was now intensified, now weakened by political events; and in what sense the attack on realism was basically an attack on progressivism, more concerted and more consistent (because of its frankly reactionary character) than the defensive and often confused ideas of those attacked. In this prolonged campaign the forces on both sides shifted ground, old fighters dropped out and new ones were recruited as the implications and the contradictions of social attitudes on both sides were clarified by events, until finally Courbet, "out on a limb" with Proudhonist radicalism, became a splendid and vulnerable target for those who, often in spite of his own disavowals, had identified him in 1850 with all that was subversive, and were ready to tear him into pieces when the post-Commune reaction delivered him into their hands.[4]

I

During the eight years between Gustave Courbet's arrival in Paris and the February Revolution of 1848, this burly, garrulous and thick-skinned provincial avoided all contact with routine academic training, and based his self-education as a painter on the old masters of the Louvre, and on life drawing at the *Académie Suisse*. Although much of his first work reveals the romantic attitude, he soon came to think of himself as best qualified to continue the naturalistic experiments of Gros and Géricault. The former, a Davidian of whose work Courbet had seen copies in the *Pensionnat Oudot*, had denied his own classicist methods by painting the *Pest Victims of Jaffa* despite the frantic warning David sent him from Brussels—"Quick, quick, my friend,

ugly, the coarse, and the vulgar, concludes that "one may justifiably assert such comments to be animated by more than aesthetic dislike" (*Courbet and the Naturalistic Movement*, p. 48). Ruth Cherniss remarks (*ibid.*, p. 95): "it is clear that the social spirit did not leave the field of art untouched," and suggests that it was class-consciousness to some extent which impelled the Naturalists to condemn the bourgeoisie of which they were an "advanced" division, to cultivate pure objectivity and scientific detachment, and to adopt a fallacious and sentimental attitude toward the working classes (*ibid.*, p. 95-100).

[4] The crucial years for such a study are 1848, 1850-51, 1855, 1857, 1865-67 and 1871-77. The author is now engaged in analyzing Courbet's part in the Commune and the consequent reprisals.

consult your Plutarch!" Géricault, claimed by the romanticists, had nevertheless created *The Raft of the Medusa,* which hinted at the realistic method in the painstaking documentation on which it was based, and the immediacy of its subject.[5] Courbet unhesitatingly took his place in what is now recognized to have been a stubborn and continuous tradition of naturalistic-descriptive art in France,[6] a tradition whose incompatibility with both classic and romantic ideals became obvious during the July Monarchy to those who realized that these two officially antagonistic movements had more in common than the partisans of either cared to admit. Both were "idealistic." Both detested nature in the raw: classicists made art superior to nature by selection, re-arrangement and generalization of forms according to "classic principles"; romanticists overcame nature's banality by subjecting visual phenomena to the transforming power of the artist's temperament. Both schools clung tenaciously to the autonomy of art; both avoided subjects, personalities, costumes and settings of their own time. Both scorned the bourgeois of the new commercial-industrial order, cultivating, in the words of Théophile Gautier, "a brutal insensitivity to everything that might please the bourgeois voters." Both, as Castagnary was later to point out,

> corresponded precisely with the classical education provided in those days for the sons of middle-class Frenchmen. To enjoy, or even to understand this art, required that one should have studied the "humanities." It was the painting of the classes who directed and dominated the Constitutional Monarchy. It ostracized contemporary France . . . A man could paint the Greeks of the Trojan Wars or the Romans of the Decadence, could show Venus rising from the sea, and follow Hamlet to Ophelia's grave or Marguerite to the church; it would have been bad taste to portray the men of middle class who had made 1830 and who were about to make 1848.[7]

[5] In 1816 the frigate *Medusa,* bound for Senegal, was wrecked. Fifteen survivors were finally rescued from a raft, after sufferings described by one of them, Correard, in a book which appeared in 1817. The episode was seized upon by the liberal opposition which blamed the Government for the captain's incompetence. In the violent controversy over the *Medusa,* Géricault shared the ideas of the liberals.

[6] See Léon Rosenthal, "La Genèse du Réalisme avant 1848," *Gazette des Beaux-Arts,* 1913 and 1914.

[7] In Castagnary's notes for a life of Courbet, fragments published by the *Gazette des Beaux-Arts,* 1911-1912. Castagnary is inaccurate in ascribing the February Revolution of 1848 to the bourgeoisie. (Ed.)

Snubbed by royal purchasers, belittled by successful artists and powerful critics, prevented by an ultra-conservative jury from showing their work to potential buyers in the salons, a group of younger men had by 1848 drawn together in defense of their interests as artists. As early as 1830, Jeanron petitioned the State for financial grants to aged artists. A year later the short-lived Artists' Mutual Aid Society was formed. Since many of these men attributed their own and their fellows' lack of opportunity to the Monarchy, their hopes tended to be associated with its alternative, a republic. Their talk and their work were colored, as Champfleury said, by "a democratic aspiration which was latent and scarcely conscious of itself"; by a vague and sentimental humanitarianism such as motivated the novels of Eugène Sue and George Sand, urged Victor Hugo and Lamartine into politics, and suggested for young painters new themes and new treatment.[8] It was Charles Blanc who, in the forties, applied the term *école démocratique* to this group.[9] Blanc's phrase was given substance by the clarifying of social attitudes which resulted from the events of 1848-51, events which more sharply divided artists' loyalties. The choice now is not between romanticism and classicism, but between realism and the various forms of idealism. This choice is defined in the terminology of art, of ethics and philosophy. The beautiful and the rare are defended against the commonplace, the crude and the ugly; style against stupid imitativeness; personality against cold objectivity; the spiritual against the materialistic approach. But underlying at all times, and often quite sharply revealed, is the antithesis between reaction and progress, between enemies and defenders of the democratic republic. The relations between art and politics have often been vague and indirect, but not during the Second Republic and Louis Napoleon's Empire. Never in history were French artists so inescapably impelled either to take sides or to wash their hands of the contemporary world. Never before had there existed such vigorously contrasted and such militant schools

[8] "Between 1830 and 1848, one sensed the approach of an era of fraternity . . . One comes to feel that man gains nobility and self-respect through closer association with the earth . . . they [landscapes] are invigorated by the struggles, the poems and the tragedies of living people . . . 1848 saw one's heart warm toward the people." Jules Breton, *Nos Peintres du Siècle* (Paris, n. d.), p. 74-5.

[9] "Even before the Revolution of 1848, realism was looked upon as a democratic movement." Thaddeus Ernest Du Val, Jr., *The Subject of Realism in the Revue des deux Mondes* (*University of Pennsylvania*, 1936), p. 37.

of critics to defend, in thinly disguised esthetic language, the theory and practice of the social groups whose spokesmen they became.

II

Courbet was twenty-nine and relatively unknown as a painter when, in February, 1848, the monarchy of Louis Philippe, that "joint stock-company" controlled by the financial top stratum of the middle class, was overthrown by a combination of forces whose irreconcilable antagonisms, revealed as soon as the barricades came down, made the next four years "the motliest jumble of crying contradictions," as Marx phrased it. Baudelaire says that many young artists fought in the streets during February. Courbet wrote to his family: "I take no part in the fighting, for two reasons: first, because I have no faith in guns and cannon; for ten years I've campaigned with intelligence as my weapon . . . second reason, because I haven't any firearms."[10] A year before, Courbet had written articles for *Le Corsaire* demanding a more liberal salon jury, and had collaborated on plans for an independent exhibition. Now he drew a scene depicting combat on the barricades which appeared in Baudelaire's *Le Salut public.* He frequented the Brasserie Andler, "Temple of Realism," where democratically inclined artists hobnobbed with eccentric social philosophers. There he and Proudhon argued over the "social content" of Courbet's *Stone Breakers,* and formed a friendship very important for both. Courbet and Proudhon had opposite views on personal behavior. Their fields of professional activity were far apart, their intellectual equipment unequal. Yet both were from the same province, knew and admired the same social types; both paradoxically combined practical hard headedness with utopian vision. Courbet, like Proudhon, was "proletarian and bourgeois . . . violent in his thought and tender-hearted not only toward his friends but to mankind in general. . . . "[11] Doubtless Courbet shared Proudhon's disillusion with the Provincial Government of 1848, in which the various bourgeois factions combined to ignore or sabotage the demands of the Paris workers who had made the February victory possible. The evidence was clear to anyone who walked the streets, read the newspapers, or joined in the discussion at the Brasserie Andler. Seventy-five hundred machinists out of work; a panic organized

[10] Georges Riat, *Gustave Courbet* (Paris, 1906), p. 50.

[11] From Roger Soltau's description of Proudhon in *French Political Thought in the Nineteenth Century* (London, 1931), p. 273.

by the banks; National Workshops improvised as a sop to the workers who had forced the declaration of the *droit au travail;* seventy thousand men of all trades and professions, including artists, bank clerks and musicians, taking up and replanting trees on the boulevards while bystanders grumbled about this "state pension for sham labor"; in March, demonstrations by the National Guard. On April 16 thirty thousand workers ominously crowded into the Eastern quarters which normally housed one-third that number. On May 15 Barbès could be seen throwing proclamations from a window at one end of the Hotel de Ville declaring the Assembly superseded, while the Mayor of Paris from another window issued leaflets denying the dissolution of the Assembly. In June, the Government moved decisively against the National Workshops, preparing for the inevitable blood bath of the June days. Parades of workers on June 22 shouted "Work! Bread! We'll take our stand!" The next few days were crowded with events: omnibuses pushed over to make barricades the morning of June 23; "bloody Sabbath" on June 25 with Cavaignac military dictator of Paris; four to five hundred insurgents dead in battle and nearly three thousand slaughtered after the battle was over. The "republicans" of the Party of Order smashed first the revolutionary force of the workers and then the political power of the democratic republicans as a preliminary to the denial of suffrage to three million electors in May 1850, and the democrats were forced uncomfortably into closer alliance with the "socialists."

Champion of the artisan and small-traders' class with which he was most familiar, Proudhon "really believed that artisan and small farmer formed a stronger foundation for a Socialist state than the mass of the proletariat."[12] To use Marx's phrase, he preached "the transformation of society upon democratic lines but within the boundaries" of the former class; a series of social reforms to be accomplished without violence under the guidance of enlightened leaders like himself, rather than the seizure of power by an organized proletariat; a revolution having as its goal the redistribution of private property, not the destruction of the system. There was much in Proudhonism to attract the disillusioned painters and writers of *l'école démocratique:* his contention that the state, whether monarchial or republican, tyrannized over the individual and prevented him from attaining complete stature as a moral being; his condemnation of the long hours of work, filthy

[12] Roger Soltau, *op. cit.*, p. 133, footnote 2.

housing, unemployment and the labor of women and children; his claim, so vividly illustrated by the caricatures Daumier was making of the Assembly, that Parliamentary government is a "political system invented for the express triumph of talkative mediocrity";[13] above all his contention that social change will bring a renaissance of the arts.[14] As Proudhon attacked the centralization of power in the state, his literary and artistic associates attacked the monopolistic practices of the salon juries. As Proudhon claimed for his ideal society a place on the margins of capitalism, artists demanded a place in the world of art to which they felt themselves entitled by virtue of talent and a desire to explore new content. Most of the early realists hesitated to be dogmatic even about realism; all of them were basically individualistic, and quick to resent the reading into their work of specific social meanings. Courbet's earliest defender, Champfleury, explained that "the name 'realist' horrifies me by its pedantic terminology. I shun schools like the cholera, and my greatest joy is to discover sharply defined individual personalities. That is why, in my opinion, M. Courbet is one of the coming men."[15] Champfleury praises Courbet as, above all, a talented and solid craftsman. After the scandals aroused by *The Bathers* had died down, there still remained to be acknowledged the masterly way in which the nude had been painted in figures which "shocked the conventional by their failure to remind us of the Venus Anadyomene of antiquity." The critic defended the painter's right to portray ordinary people: "M. Courbet is a 'factionist' because he sincerely painted bourgeois, peasants, and village women life-size . . . Nobody will admit that a stone-breaker is as good as a prince; the aristocracy is up in arms the moment an artist devotes yards of canvas to the common, ordinary run of people." He carefully adds that "*The Bathers, The Wrestlers, The Stone Breakers* do not contain the *ideas* which people afterward tried to read into them."

[13] Proudhon in *De la Capacité politique des Classes ouvrières* in his *Oeuvres posthumes*, II (Paris, 1873), discusses parliamentarism, democracy, suffrage, and allied problems.

[14] A theory later formulated by Proudhon in these words: "Believing as we do that religions, philosophical systems, old political constitutions, judicial organizations, past forms of association as well as of literature and art, have been only particular manifestations of material conditions, is it not obvious that, should these conditions change . . . everything in society will change, philosophy, politics, literature, art?" Quoted by Soltau, *op. cit.*, p. 272.

[15] Letter to George Sand, September, 1855. Published in Champfleury's *Le Réalisme* (Paris, 1857).

In short, the more-or-less realists such as Flaubert, Champfleury, Baudelaire and the Goncourts detested the limitations forced upon art by its academic-conservative critics and patrons (a position shared by the romanticists), and repeatedly scorned the hard, narrow-minded and unimaginative outlook of the bourgeoisie as inimical to art; nevertheless they revealed their own class limitations by attacking effects while ignoring causes, by flirting with socialism in a most gingerly fashion, and by disclaiming for their art any moral or utilitarian purpose, a position which led them, when their conservative opponents had managed to maneuver them into the category of "subversives," to cloak their divided loyalties under the mantle of scientific objectivity (Flaubert's "display, dissect . . . do not pronounce moral judgment"), until many a realist found himself condemned to the unrewarding task of describing over and over again "the adultery of the grocer's wife with the corner wine merchant" as Huysmans said. It is true, as Barbusse points out in the case of Zola, that socialism more consistently understood and accepted would have saved naturalism from the too exclusive and too negative position in which it found itself as a result of being socially short-sighted. But to expect from the realists of 1850 a greater degree of social clairvoyance than they possessed, is to ask that history precede itself.[16]

Soltau notes[17] after 1848 "the stampede away from socialism of the small farmer and the *petite bourgeoisie,* frightened out of their wits by the crisis of June; only after 1848 could the chasm existing between the proletariat and all other classes clearly be discerned." When the stampede came, Courbet's friends looked askance at the friendship between the painter of *The Stone Breakers* and the author of *What Is Property?* The Courbet of the years after 1851 was forced to find new champions. In the meantime, the identification of realism with both artistically and socially reprehensible practices was accomplished not so much by the realists themselves as by their more shrewd and more consistent opponents who, because Courbet was the most outspoken

[16] Flaubert called socialism "a disgrace to the human mind," thus displaying, as Plekhanov points out, the shallowness of his claim to social objectivity. The fanatic Sénécal, in *L'Education sentimentale,* symbolizes Flaubert's dread of socialist authoritarianism. Sénécal turns policeman and kills the humanitarian idealist, Dussardier. Baudelaire held that the existence of an aristocracy was indispensble to the cult of beauty. The Goncourts wrote that "art is essentially aristocratic . . . don't tell us that beauty is accessible to everybody."

[17] *Op cit.,* p. 133.

of the insurgents, singled him out for direct attack as *chef d'école.*

The Revolution of 1848 had destroyed the Academy's dictatorship over the annual salons, and in the exhibition of that year Courbet had his first opportunity to present several examples of his painting. The response from the right showed that the basic outlines of the anti-realist campaign had already been defined. The *Revue des deux Mondes* had already, in the early eighteen thirties, expressed a general distaste for "literal imitation," for "materialism," and for "unworthy subject-matter." But with the Salon of 1849 its attack becomes more sharp. Lagenevais warns the newcomers that they now stand at the crossroads. Shall it be pure imitation or *fantaisie réaliste?* If the former, then this movement will gradually descend to the worst extravagances of Dutch materialism. The critic praises Meissonier and Corot: "the landscapes of M. Corot speak to the soul and inspire revery." He spares Courbet thirteen lines, conceding that *After Dinner at Ornans* is well brushed, but objecting that its subject properly belongs to *genre* painting, where the vulgarity of common persons in a commonplace setting would be tolerable because of the small size of the picture, its offensiveness being thus diminished as though seen through the reverse end of a telescope. But unfortunately, Courbet has seen fit to paint a *genre* subject in life size.[18]

It is important to remember that the art critics of the *Revue des deux Mondes* are consistently applying to this special field the general editorial policy of a publication which deplores the Revolution of 1848, fears the growth of democratic ideas, and will later support the régime of Louis Napoleon Bonaparte as a safeguard against the "Red Republic." Du Val points out that by 1849 the *Revue* "represents the bourgeois property owners and business interests, and is loud in its defense of property rights and capitalism."[19] Moreover, he says,

it is especially as a movement of revolt against the established order in the field of art and as a doctrine based upon the principle of the

[18] Salon of 1849, in *Revue des deux Mondes,* Aug. 15, 1849. Courbet's picture must have been startling in its surroundings. This salon showed, among others, the following subjects: *Jewish Wedding, Moorish Women, Egyptian Café, Spanish Shepherds, Venetian Lords and Courtesans, An Episode in the Life of Poussin, The Siesta, The Death of Bailly, Lady Macbeh, A Young Christian Girl Converting Her Sweetheart, The History of the Soul, The Birth of Pindar, The Dance of the Djinns, Pontifical Mass at Rome on Easter Sunday.*

[19] Du Val, *op cit.,* p. 47.

portrayal of life as it really exists that realism was inevitably associated in the columns of the *Revue des deux Mondes* with the democratic and humanitarian movement represented in politics by the Revolution of 1848 and the era of social and political disorder following that revolution.[20]

III

The year 1851 saw France escape "the despotism of a class only to fall under the despotism of an individual," as "the hero Crapulinsky makes his entry into the Tuileries as the 'savior of society.' "[21] It also saw two of Courbet's most famous works exhibited at the Salon: *The Funeral at Ornans* and *The Stone Breakers.* The pack was now in full cry after Courbet, the label *peintre socialiste* openly being applied to him. A year previously, the *Revue des deux Mondes* had drawn up in explicit terms its indictment of the democratic spirit in literature, which dissolves morals by stirring up envy and class hatred, undermines the family, saps national patriotism, kills literary spontaneity, breaks down distinctions based on taste, fails to respect the sacred things of the spirit, divides the imagination from the conscience, etc., etc. "Contemporary confusion in *all fields* can be traced to the stupid and ruthless propagation of a false notion of democracy." Let vigilant critics rise up to defend art against the barbarians.[22] Louis de Geofroy's Salon of 1850[23] gives Courbet three pages describing him as "the artist whose work sums up the most haughty and complete scorn for everything the world has admired since it began." It may well be, says Geofroy, that Courbet is a socialist painter, granted the elementary and idiotic nature of socialist doctrines. After a sarcastic description of *The Stone Breakers* and *The Peasants of Flagey,* Geofroy analyzes the *Funeral,* which fails in all respects to observe established principles of composition, of color, of "expression." It is, of course, as possible for us to grieve over a peasant's death, as over the death of Phocion; and "if M. Courbet had deigned to elaborate upon his idea, had adjusted the various parts one to another by pruning away or dissimulating the ugly elements for the benefit of the pleasant ones which such

[20] *Ibid.,* p. 61.

[21] Karl Marx, *The Eighteenth Brumaire of Louis Bonaparte.*

[22] *Revue des deux Mondes,* March 1, 1850.

[23] *Ibid.,* March 1, 1851. That the *Revue* can be taken as typical of the forces hostile to Courbet is indicated by a variety of comments quoted by Riat, *op. cit.,* p. 86-89, from Clément de Ris, Philippe de Chennevières, Courtois, Vignon, Hussard, Peisse, Gautier, Pillet and Delécluze.

a subject could provide, he might have produced a good picture." The theme, in order to move us, should have been expressed in a more general way, with less reference to a specific locality. The light, instead of falling evenly on all the figures, should have been concentrated on one or two groups, in order to intensify the emotion. As it is, the effect is weakened by diffusion. What remains is a string of grotesque portraits which are essentially caricatures. One refuses to weep at this funeral. The whole atmosphere of the salon, like this painting, is ominously materialistic.

Nine months after the publication of Geofroy's comments, the *coup d'état* drove many of Courbet's friends into exile, and chilled, in those who remained, the fervor with which they had formerly championed the artist, who from this time on boldly accepts the accusation of being "not only socialist, but even more, a democrat and a republican; in short, partisan of the whole Revolution, and what is more, a realist, *un ami sincère de la vraie vérité.*"[24] Proudhon goes to prison (1849-1852) for a pamphlet in which he had urged Louis Bonaparte to "come and put an end to our quarrels, come and complete the shame of the French people." Courbet is watched by the police, his letters opened. But, like Proudhon, he chooses to remain: "it is here, under the sword of Bonaparte, the big stick of the Jesuits and the spy-glass of the police, that we have to work for the liberation of the human race." Mutual hatred for the Second Empire, and the attacks made on Courbet's *Demoiselles de Village* (1852) and his *Bathers* (1853) brought the two men more intimately together for conversations on the relation of art to social progress which were to culminate in the joint essay of 1865.

For the Exposition of 1855, ten or eleven paintings by Courbet were accepted, a gesture which by no means indicated official surrender to the new school. Ingres showed thirty-six works on this occasion, Delacroix thirty-four, Decamps thirty-nine. Courbet and his friends proceeded to build, at the very doors of the Fair, a "Pavilion of Realism" in which forty Courbets were shown, including the *Studio* which the Exposition jury had refused. The painter composed for the catalogue of this first one-man show a moderately worded manifesto in which he remarked that "the title of Realist has been imposed upon me, as the term Romanticist was imposed on the men of 1830." After

[24] Quoted by Riat, *op cit.*, p. 94.

disclaiming any attempt to imitate either old or modern masters, or to follow the too-easy path of art-for-art's-sake, Courbet explained that he had studied the part in order to formulate more soundly his own personal contribution to art. "To translate the habits, the ideas, the appearance of the period in which I live . . . in a word, to create a living art—such is my purpose."[25]

By 1855 Courbet is being assailed from three directions. The romantics recoil from the brutal prose of his art, the anti-realists of the *Revue* continue their sniping, and the more fastidious realists themselves dislike him. Thus Théophile Gautier writes that the *Bathers* is "proof positive of a great talent gone wrong." Delacroix, although he regrets that the *Studio*, "one of the most singular works of our time," was excluded from the Exposition, notes in his Journal on August third, 1855, that "it is the cruel reality of things from which I escape when I take refuge in the world of artistic creation." The Goncourts, who had already defined extreme realism as "dauguerreotype carried about by a blind man who stops to sit down whenever he comes to a dung-heap,"[26] profess themselves in favor of a realism which does not deal exclusively with the ugly, the realism of Murillo's *Le Pouilleux (Boy with Lice)*.[27] But the heaviest guns are brought forward by the now disciplined and consolidated army of reactionary criticism. Maxime Du Camp initiates a prolonged vendetta which, in the days of the Commune, will descend to character-assassination through insinuation and outright falsehood.[28] Gustave Planche opens his comment in the *Revue* with fulsome praise for the three names which dominate all others in French art and which sum up the French genius —Delacroix, Ingres, and Decamps. He then scolds the authorities for excluding Courbet's pictures, thereby giving the painter a chance to cry "persecution." Planche scarcely mentions the pictures at the Pavilion of Realism, but writes a long and sarcastic comment on the

[25] The catalogue and manifesto of 1855 are reproduced in Charles Leger, *Courbet* (Paris, 1929), p. 62.

[26] *Etudes d'Art* (Paris, n. d.), p. 7.

[27] Courbet wrote in 1852, "I paint *casseurs de pierre*, Murillo paints a *casseur de poux*; I'm a socialist and Murillo a respectable fellow. It's incredible!" Quoted by Riat, *op. cit.*, p. 100.

[28] Characteristically unscrupulous is Du Camp's attempt, in *Convulsions de Paris*, to suggest that Courbet was mentally unsound and a megalomaniac. He states that, in Courbet's show of 1855, all the pictures except three or four were self-portraits, a statement disproved by the catalogue.

manifesto, for which he ironically expresses his gratitude to the artist, since before this it was pure guesswork what Courbet was trying to accomplish. He couples praise for Courbet's "magnificent and courageous resolution to express his own personality" with tart condemnation of the way in which Courbet has mis-read the past—"tradition does not authorize the cult of the ugly." As for Courbet's desire to offer posterity a faithful image of life as it was in his time, Planche characterizes the image as "a libel which future ages will consider a very poor gift."[29]

By 1857 the Napoleonic honeymoon was waning, however, and this may account for the gradual tempering of the more extreme attacks on realism, even in the *Revue des deux Mondes*. *The Revue,* partly as a result of Napoleon's persecutions of the press, became virtually an opposition paper during the later years of the Empire. Furthermore Courbet showed in the Salon of 1857 that he was cultivating more varied subject matter; there were portraits, landscapes, several hunting scenes, and the famous *Demoiselles des bords de la Seine*. Du Camp praised Courbet's vigor, condemned his lack of soul. Gautier failed to find any drawing, style, or composition. Paul de Saint-Victor praised the still-life but disliked the figure paintings. Courbet's earlier defenders having melted away into reservations, the year 1857 introduces a new critic in the person of Jules Antoine Castagnary who, in a sense, replaces Champfleury. Castagnary was twenty-seven when he wrote his first Salon in 1857. Dogmatic by nature, his first reservations concerning Courbet soon gave way to ardent and categorically phrased articles in support of *la peinture rationnelle*. He condemned the romantics because they shrank from the contemporary; the fabricators of historical paintings which required literary knowledge for their enjoyment; the Orientalists who portraved an alien meaningless world. He assailed the muddy grisailles, the vague and characterless allegories of Puvis de Chavannes. With the crumbling of both theocracy and monarchy, wrote Castagnary, "the human aspect of art takes the place of the heroic and the divine . . . imaginative and stylistic art gives way to clear and honest representation of society and its customs . . . the Salon of 1857 marks the glorious date of the arrival of Man as a work of art."[30] Castagnary was soon joined by Théophile

[29] *Revue des deux Mondes*, Sept. 15, 1855.

[30] Castagnary. *Salons*, 1857-79 (Paris, 1892), I, p. 15.

Thoré[31] as standard-bearer of the Proudhon-Courbet version of realism. Ex-romanticist, ex-Carbonarist of 1848, convert to the socialism of Pierre Leroux, arrested and exiled to Belgium for his share in the June riots, Thoré returned to France in 1860 and devoted himself to "a criticism of art based on social philosophy." In spite of his ultimate failure to construct a criticism of art fusing his own social ideas with his considerable knowledge of art and his sensitiveness to quality in painting, Thoré's Salons deserve more attention than they have yet received. He declared on the one hand that subject matter is irrelevant, affirming that "a jug by Chardin is worth all the Romans of the Empire"; on the other hand he embraced realism because it was a force for social progress. "Doubtless art is no direct means to social change. Pictures which preach are ridiculous . . . " but art should "provoke love for what is true, what is just, what is fruitful for the development of man." The great movements in art are brought about by the evolution of society as a whole, of which artists take advantage. To change art form is a matter of imagination, accomplished by each artist in his own way. But changes in the basic character of art, as in the basic character of society, do not depend upon individual men, nor even small groups of men.[32]

Between 1850 and 1860 Courbet's reputation became European. His works were shown in Brussels; he spent six months in Germany, exhibited in the French provinces, celebrated the *Grande Fête du Realisme* in his studio (1859), organized a group of disciples composed of young men who had broken with the École des Beaux-Arts, and was hailed by Belgian painters as their master when he made his Antwerp exhibition of 1861 the occasion for a declaration of principles in which one feels the influence of Proudhon, Thoré and Castagnary. Courbet bluntly declares himself the first French artist who dares categorically to deny the *ideal* in art. "The *Funeral at Ornans* was really the funeral of Romanticism," a school of which only Delacroix and Rousseau deserve to survive. Both romantic and classic art were art-for-art's-sake.

Today, in line with the most recent developments in philosophy, a man must use his reasoning powers even in creating a work of art, and must

[31] Also known as W. Bürger. See his *Salons de 1861 à 1868* (Paris, 1870), 2 vols.

[32] Quoted by Gustave Larroumet in *Etudes de Littérature et d'Art, 4e série* (Paris, 1896), p. 142.

never sacrifice logic to emotion . . . My form of art-expression is the first, up to this time, in which these elements are synthesized. By denying the Ideal and all its consequences, I arrive at the complete emancipation of the individual, and finally at democracy. Realism is essentially *l'art démocratique*.[33]

Despite the odd phrasing which is characteristic of Courbet's pronouncements, this self-explanation, together with the writings of his new champions, leaves no doubt as to the nature of his quarrel with both the anti-realists and the semi-realists. By the middle of the Second Empire it was clear that both ultra-conservatives and ultra-revolutionists were defending the utilitarian view of art,[34] as opposed to the doctrine of art-for-art's-sake held by both the realists of yesterday and the romanticists of the day-before-yesterday.

An exchange of letters in 1862 between Champfleury and Courbet revealed the extent to which the latter had progressed beyond those former democrats who failed to survive the wear and tear of life under Napoleon the Little. Champfleury wrote to Courbet: "You talk too much and paint too little. Your friends are pained by the position you're taking as a man and losing as an artist." Courbet replied: "I cannot admit that a man should avoid social action. The greatest spirits whom we admire in the past were constantly involved in the doings of their time." Three years later, Champfleury confessed to Max Buchon, "Courbet had too strong a stomach; mine was too queasy." With the publication of Proudhon's *Principe de l'Art* in 1865, the suspicions of Courbet's enemies and the forebodings of his friends were both confirmed.

IV

As the first serious attempt to formulate a socialist esthetic, it is extraordinary that *Du Principe de l'Art et de sa Destination sociale* has received so little attention by modern scholars and by writers on Courbet.[35] It is not widely known that Courbet not only advised

[33] Courbet's extemporary talk was published in the *Précurseur d'Anvers*, Aug. 22, 1861, and is quoted by Riat, *op. cit.*, p. 191 f.

[34] "An intense and active interest in a given social order or social ideal brings the utilitarian idea of art." Plekhanov, *Art and Society* (New York, 1936), p. 52.

[35] Georges Riat devotes fifteen pages to the *Principe*. George Boas recognizes its importance by discussing it in his essay, *Courbet and the Critics;* see *Courbet and the Naturalistic Movement*, p. 51-55.

Proudhon during its production, but actually wrote parts of it himself.[36] Both men felt the need for a critical exposition of the theory of realism; both agreed that Champfleury lacked the intelligence for the task, and that Max Buchon was too sentimental to understand its importance. The book was in every sense a collaboration between two men who had "synthesized society," as Courbet said, "one as a philosopher, the other as an artist." The essay, grown from 12 to 376 pages, was published after Proudhon's death, in 1865. It contains twenty-five chapters, ten of which had to be completed by Proudhon's literary executors from notes which he left.

First, the *Principe* attempts an intelligible definition of art and its function. Although art seems to inhabit a region above morals, justice and law, nevertheless beauty has objective existence. "What is the mind, if it is not nature conscious of itself?" Furthermore, art progresses not solely by its own efforts, but as a result of causes external to itself. Art is utilitarian: "every artistic creation . . . is made for some purpose. It is ridiculous to suppose that anything should be produced in society with the sole aim of producing itself . . . Art is an idealistic representation of nature and of ourselves, having as its goal the material and moral improvement of our species."

It follows that art-for-art's-sake is *débauche de cœur et dissolution d'esprit*. It follows also that degeneration will accompany all movements without social idealism or a constructive understanding of, and attitude toward, the world artists live in. For example, Egyptian art expressed the religious and patriotic ideals of the whole community. "It is thanks to this power of collectivity that Egyptian art, in spite of the narrow limits it seems willingly to have imposed upon itself . . . attained an originality and a stylistic vigor which aesthetic anarchy could never have produced." In strong contrast is the ambiguous art of the Renaissance, devoid of central principle, all fantasy and counterfeit, its famous imitation of antiquity "a vampire art which attacked Europe along with syphilis." The Dutch reformers created in their so-called "materialistic" painting a more spiritually satisfying art than the most idealistic works of the Renaissance; Rembrandt's *Anatomy Lesson* is more sublime than Raphael's *School of Athens*. Both David and Delacroix stood in a false relation to their times. The former mis-

[36] As Courbet states in a letter to his family written in the summer of 1863, and quoted by Riat, *op. cit.*, p. 208 f.

applied classical allegory to contemporary themes, although his *Marat* equals the best Dutch painting. The latter, by painting for himself and not for us, descends to hazy subjectivism in treating subjects as alien to our world as those of the classicists. To Proudhon and the socialists of 1848, the Vendôme Column, Notre Dame Cathedral, Chateaubriand and Lamartine were the "monuments and the poets of counter-revolution." In Delacroix's *Boissy d'Anglas,*[37] the artist contrasted the heroic figure of Boissy with the crowd that threatened him; the real theme is the individual defying the mob. "What the painter failed to see . . . is that the riot of Prairial was provoked by the reaction of Thermidor." There results a wrong done to art because the artist has completely misinterpreted the cause of the people. Over-subjectivity causes artistic decadence, therefore

> let art become more rational, let it learn how to express the aspirations of our epoch as it has expressed those of past ages. Let it seize upon modern ideas, assimilate them, work in harmony with the universal contemporary movement instead of being discouraged by a sense of inferiority which is only superficial and which really results from the artist's false claim to independence. Let artists go to work with courage, and a new artistic era can begin for mankind.

Chapters eleven to twenty-four in the *Principe* deal mainly with Courbet. Proudhon writes as one who fully understands Courbet's weaknesses.[38] Instead of idolizing him, or exaggerating his accomplishments, the philosopher tries to explain Courbet's central idea. He describes *The Funeral at Ornans,* attributing to it the moral purpose of calling attention to the banality of our conception of death. As for *The Bathers,* Proudhon recalls that the Empress Eugénie, a better judge of horseflesh than of art, asked if "this too represented a *percheronne?*" Proudhon replies, "No, Madame, this is a plain bourgeois

[37] The episode on which this painting is based took place in 1795, after the *Girondins* had been victorious over the *Montagnards* in the Convention. Demonstrations by the Paris crowds against the refusal of the former to alleviate suffering and hunger took place in March under the slogan "Bread, the Constitution of '93, and freedom for patriots," but were suppressed by citizens' vigilance committees. On the first Prairial a desperate mob again invaded the Convention. The deputy Feraud was killed, and his decapitated head thrust in the face of the presiding officer, Boissy d'Anglas.

[38] Proudhon describes Courbet in the *Principe,* p. 281: "built like Hercules, a pen is as clumsy in his hand as a bar of iron in the fist of a child."

woman, like many another, whose husband was a liberal under Louis Philippe, a reactionary during the Republic, and at present is one of your husband's most devoted subjects." Some peasants wanted to use Courbet's *The Stone Breakers* as an altarpiece in their village church. "I commend this idea to M. Flandrin," says Proudhon. Despite Courbet's boastfulness ("a sign of weakness"), his brutality, his failure to take full advantage of the art of the past, his false notion that the realistic revolution is his own invention, his inferiority as a theorist (he has "great intelligence, which is concentrated in one talent alone"), Courbet's power as an artist derives from the appropriateness of realistic art for an age which sees the growth of positivism in philosophy and politics. Although the painter attacked "imaginative" art when he replied to an opponent, "you who pretend to paint Charlemagne, Caesar and Jesus Christ—could you successfully do a portrait of your own father?" Nevertheless, for Proudhon, Courbet is "a painter of the imagination, one of the most powerful *idéalisateurs* that we possess . . . In short, Courbet is an expression of the present. His work coincides with Auguste Comte's *Positive Philosophy; The Positivist Method* of Vacherot; my own *Human Rights* or *Immanent Justice;* the Right to Work and the rights of workers, foretelling the end of capitalism and the sovereignty of producers; the phrenology of Gall and of Spurzheim; the physiognomy of Lavater . . . " Courbet "has hit upon a mighty and fertile idea and has served it with distinction in his painting," even if his verbal expressions of it have been marred by eccentricity and paradox. The book ends with a challenge to artists to serve the socialist revolution rather than be the lackeys of corruption and idleness—"and thou shalt renew the face of the earth" (*et renovabis faciem terrae*).

The *Principe de l'Art* contains many judgments whose soundness time has vindicated—such as, for example, the author's characterization of the romantic attitude toward history. It is remarkable also for its attempted analysis of the extent to which strong personalities like Courbet determine the development of art and to what extent their achievements are in turn shaped and directed by external forces. Inevitably its ruthlessly dogmatic phrasing, and the sharpness of its attack on such established reputations as that of Delacroix, shocked almost every one. By 1865 realism was an established school recognized by the *Revue des deux Mondes.* Even Baudry, Cabanel, Gautier and About

praised Courbet's *Remise des Chevreuils* and his *Femme au Perroquet* in the Salon of 1866. The publication of the *Principe* coincided with the revival of republican opposition to the Second Empire. But although a kind of armed truce was declared between the representatives of opposing artistic doctrines, the joint work of Proudhon and Courbet provided munition for later skirmishes at a time when the offensive was to be shifted from the paintings to the painter himself, and Courbet's downfall was traced to his assocation with persons and ideas alien to art and inimical to society.

This *motif* appears in Zola, whose brief career as an art critic includes a review of the Salon of 1866.[39] When Zola wrote these comments he had by no means attained the point of view expressed in his later pronouncement: "all must act, all must know that it is a crime against society to remain passive in this grave hour when the iniquitous forces of the past offer supreme challenge to the forces of tomorrow."[40] The Zola of 1866 declared himself the defender of all persecuted artistic personalities of whatever style or school. In the conflict between temperament and the mob, Zola was for the temperament and against the mob. His scorn for the boudoir art of the academicians was based on its lack of personal conviction, of inspiration. "Two thousand pictures," he laments, "and not ten men." . . . "As science and industry develop, artists take refuge in a cheap and meretricious dream world of tinsel and tissue paper . . . . For Heaven's sake, since you are painters, *paint*. Here is flesh, here is light, make an Adam which shall be your own creation. Be makers of men, not artificers of shadows." Fromentin's spiced sauce creates an Orient in which there are colors but no light. Pissarro is an unknown of great promise, Corot a trifle too diaphanous with nymphs who ought to be replaced by peasant girls. Bonvin's love for nature is a platonic affair. Monet is a man among all these eunuchs. Zola prophesies a speedy demise, a vast and eternal oblivion for most of the petty reputations of today. Delacroix and Courbet will survive because they possess strong and unique personalities which seize nature generously with both hands and place it upright before us as they see it. Art is not a question of schools, not a choice between the ugly and the beautiful, not the embodiment of esthetic theories; rather it derives

[39] See Zola, *Mes Haines* (Paris, 1866).

[40] From Zola's letter to Maurice le Blond, c. 1902. Quoted by Matthew Josephson, in *Zola and his Time* (New York, 1928), p. 496.

from the necessity that the artist "be himself." Zola advances toward Proudhonism when he writes that "science today impels us toward a precise study of facts and of material objects. The movement of our time is certainly realistic, or rather, positivistic . . . . I admire men linked in a brotherhood by the time they live in." Then he recoils: "But if a man is born tomorrow who shows us a new world. I shall hail him . . . let's have no more of realism than of any other kind of painting . . . schools in art make for servile mediocrity . . . loyalty to art comes before loyalty to any group movement . . . Courbet is dangerously near to compromising with his enemies; his works have not the earlier defiant strength of the *Funeral* and the *Bathers*. Our younger generation does not know the real Courbet, essentially one of the great *faiseurs de chair*, who would have been just as great had he painted Romans, Greeks, Jupiters and Venuses."

When Zola comes to Proudhon's treatise, his zeal to defend his own half-romantic conception of art[41] causes him to misinterpret and distort passages of the *Principe*. He is wrong when he asserts that Proudhon ignores the form of art and concerns himself exclusively with subject. He falsely accuses Proudhon of having a bias against human personality which sacrifices the artist to humanity, in contrast to Zola himself, who would gladly sacrifice humanity to the artist. Equally hasty is Zola's assertion that the *Principe* pictures a utopia where the "free expression of personality" will be forbidden, and where for that reason there will be no place for artists. Proudhon's praise of David and his condemnation of Delacroix are both intolerable to Zola. He concludes that the socialist philosopher has betrayed Courbet in order to make use of him. He exclaims:

> Oh poor, dear master, Proudhon's book has given you *une indigestion de démocratie*. For Heaven's sake remain the foremost painter of our time: don't turn either moralist or socialist. Improve mankind by satisfying our souls, not by appeals to our intellects. . . . The *Principe de l'Art* is a logical and thoughtful book, but a colossal fallacy based on wholly false premises. It should be called, *De la Mort de l'Art et de son inutilité sociale*.

One year after Zola's onslaught, Courbet built himself another one-man show on the fringe of the *Exposition Universelle*. His cata-

[41] "A work of art is a fragment of creation seen through a temperament." *Mes Haines*, p. 24.

logue listed over one hundred items, roughly a fourth of the artist's total output. Castagnary tells us[42] how he volunteered to act as guide to Thiers, who shook his head gloomily and remarked, "He's too fond of truth; it isn't good to love truth that much." The Goncourts noted, "Nothing, nothing, nothing in this Courbet show—ugliness everywhere, and *bourgeois* ugliness at that, none of the grandeur of ugliness, none of the beauty."[43] Champfleury began to suspect Courbet's mental balance, a doubt which he shared with the implacable Maxime Du Camp, who had already begun to shed crocodile tears for Courbet, the "simple imbecile driven by his own intolerable vanity into paths which were not his to follow." Henceforth until the siege of Paris Courbet received almost unanimous condemnation, and in the years following 1870 a combination of critical abuse, ridicule and humiliation with personal victimization through financial reprisals, imprisonment and exile, for which the history of art provides few parallels.

[42] *Gazette des Beaux-Arts*, 1912.
[43] *Journal*, Sept. 18, 1867.

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# THE LIMITATIONS OF FREUD

FRANCIS H. BARTLETT

Since the major portion of this essay is to be devoted to the demonstration of the limitations of Freud's theories, it is desirable at the outset to show the essential value of his contributions. This can best be done by treating their development historically.

The spearhead of serious criticism against Freud is the complaint that his theories are not based upon experimental evidence. The experiments cited by Freud are few and not at all decisive, and the attempt to base general theories upon clinical material alone has seemed unacceptable to a great many scientists. Yet, to maintain that psychoanalysis should have been based from the beginning upon experiment is to ignore the historical development of psychology.

In the late nineteenth century, the only successful methods of advancing the understanding of "physiological psychology" were experimental. But when the complex problems of personality. will and emotion were attacked in the laboratory, the results were discouraging. Nothing but a fruitless collection of unrelated facts resulted, which "gave rise among psychologists to feelings of diffidence and despair."[1] Most psychologists attributed the failure to the inherent impossibility of studying human behavior in the laboratory. "Prior to Freud," says Wheeler, "investigations of feeling and emotion had resulted in little if any progress because the individual was being studied in artificial laboratory situations."[2]

Wheeler's implication appears to be that the complex problems of human psychology will never be amenable to experimental investigation. This is not the case. A group within the Gestalt school is now beginning to approach in the laboratory the problems of will, needs and personality. On the other hand, the psychology dealing with the

[1] Gardner Murphy, *Historical Introduction to Modern Psychology* (New York, 1929), p. 409.

[2] Raymond H. Wheeler, *The Science of Psychology* (New York, 1929), p. 10.

problems of personality did not arise out of the laboratory. It came and it could only come from clinical work. "The only approach to deeper problems," says Kurt Lewin, "was the brilliant work of Freud."[3] It is to him that leading Gestaltists are looking for guidance in experiments dealing with these problems. The criticism of Freudianism is not that it did not develop upon the basis of experiment, but that even now it is not sufficiently developed to permit adequate experimental situations to be formulated.[4] Even this criticism is not entirely valid. The experiments conducted by Luria at the Psychological Institute in Moscow, some of which we shall presently review, depend upon a series of discoveries and theoretical advances in which Freud played a major part.

Freud's theories grew out of the arduous task of attempting to do something for neurotics and have developed and been revised according to the demands of continuous therapeutic practice. In 1882, when Freud abandoned the physiological laboratory and entered the General Hospital in Vienna, doctors had only begun to approach the problem of the neuroses. People suffering from hysteria were often treated with the utmost contempt as malingerers by the many doctors they were obliged to visit.

Even physicians who treated these neurotic ailments seriously, particularly by the use of hypnotism, shared the disdain. Not until 1882 did Bernheim bring Liébault into prominence, and only then did hypnotism begin to attain some degree of respectability. Charcot's experimental demonstration that hysterical paralyses are due not to organic cortical lesions but to "functional lesions," as he called them, lent support to the hypnotic techniques. Although these techniques brought temporary relief in many cases, it was soon obvious that a satisfactory therapy had not been found. Hypnotic suggestion did not *remove* the pathogenic ideas causing the disease, and it did nothing to advance the knowledge of the nature of these pathogenic ideas. Breuer, with whom Freud now became associated, had discovered, however, that under hypnosis a "widening of consciousness" seemed to occur which permitted the patient to recall many experiences which were not available to him in a normal state. Under these conditions,

[3] K. Lewin, *Principles of Topological Psychology* (New York, 1936), p. 3.

[4] J. F. Brown, "Freud and the Scientific Method," *Philosophy of Science*, 1 (1934), p. 323.

Freud and Breuer found that if they could make the patient revert back to the psychic state in which the symptom had appeared for the first time, "there came up in the hypnotized patient's mind memories, thoughts and impulses which had previously dropped out of his consciousness. . . . "[5] And the connection between these recollections and the symptoms was revealed "in the clearest and most convincing manner."[6] For, as soon as the patient had related the reminiscences, "accompanying this expression with intense emotion, the symptom was overcome and its return done away with."[7]

This "cathartic method," as it was called, showed that pathogenic ideas were not simply the patient's inexplicable belief in his own symptoms. They were reminiscences. But paradoxically they were reminiscences which could not ordinarily be remembered. As Freud wrote,

> . . . these recollections are not at the disposal of the patient in the way that his more commonplace memories are. On the contrary, when the patient is in his usual psychical condition these experiences are completely absent from his memory or are present to it only in the most summary manner. Only when patients are questioned under hypnosis do these memories recur with the undiminished vividness of recent events.[8]

The method likewise removed the power of the pathogenic ideas by assisting the patient to remember and to relive the experiences connected with the symptoms.

Freud's experience with this technique led to very important theoretical conclusions. The process of cure showed that experiences in the patient's past, which he cannot ordinarily remember, are nevertheless capable of producing effects, and that there exist unconscious mental processes, that is, ideas and impulses which have been excluded from consciousness, but which are nevertheless active.[9] It had been observed at the same time that the neurotic symptoms were derived

[5] Freud, *Collected Papers*, I (New York, 1924-25), p. 264.
[6] *Ibid.*, p. 24.
[7] *Ibid.*, p. 264.
[8] *Ibid.*, p. 31 f.
[9] *Collected Papers*, IV, p. 25. As Freud's experience deepened, the term "unconscious" took on a more specialized meaning besides retaining its original one. This led to great confusion until the differentiated "nucleus of the unconscious" was given a separate name, the "id." The term "unconscious" is now reserved for the single concept here described.

from the unconscious. The unconscious ideas were found by Freud to be associated with experiences which had been accompanied by fright, shame or psychical pain, and were refused admission to consciousness in order to avoid a revival of these distressing effects. The cathartic method failed, however, to expose the conflict between the unconscious ideas and the force which kept them unconscious, because under hypnosis the patient showed little hesitation in speaking out, and the opposing, repressing force seemed to be in abeyance.

It was not primarily this theoretical difficulty which impelled Freud to cast about for another technique. It was a practical one. Not all patients could be hypnotized; and it was necessary to attain a widening of consciousness without benefit of hypnosis. This led directly to the development of the psychoanalytic technique of free association. Freud insisted that his patients communicate to him all of the ideas usually rejected as irrelevant or distasteful. In this way he found that consciousness actually was able, without the assistance of hypnosis, to approach, if only hesitantly, and with the greatest pain and effort, pathogenic ideas and memories which had previously been reached only under hypnosis.

The method succeeded in bringing the unconscious ideas into consciousness against the resistance of the opposing forces. The conflict between the unconscious and the conscious expressed itself in the patient's difficulties, the checks in the free flow of his associations, the strange gaps in memory and the inaccuracies later corrected. The unconscious ideas and impulses, which are really a part of the personality, become and remain unconscious because they are incompatible with the rest of the personality. They are repressed as an economical measure to prevent the personality from suffering the pain of continual conscious conflict. That part of the self which is responsible for the original repression must maintain its resistance against the efforts of the excluded ideas to re-enter consciousness.

Freud thus assumed that a person's stream of consciousness is a dependable route to the depths of his unconscious, that a person's thoughts are "not arbitrary but are determined by their reaction to his secret complexes, and may be regarded to a certain extent as derived from these complexes."[10] When Bleuler and Jung applied this assumption to the word-association test of Wundt, they built, in Freud's

[10] *Collected Papers*, II, p. 18 f.

words, "the first bridge between experimental psychology and psychoanalysis."[11] Jung observed that the responses to word-stimuli were conditioned, not alone by the stimuli themselves, but by a pre-existing group of unconscious ideas of strong affective value, called complexes, in the mind of the subject. When the subject was questioned further concerning the reason for his delayed responses, some of his unconscious complexes could be brought to light. These experiments lack decisiveness for, although the interval between stimulus and response is timed, there is no means of discovering objectively the subject's inner response during this time. Moreover, the complexes themselves, being natural, are unknown both to the subject and the experimenter, and are therefore not controlled. The existence of any complex must still be inferred from the nature of the response, and what kind of a complex it is can only be determined by further investigation after the experiment is over.

A decisive experiment requires control over the complex and this can only be achieved by the production in the subject of an artificial complex known in advance to the experimenter. This important objective has been attained by Luria in experiments performed in the Soviet Union between 1923 and 1927.[12] After proving by word association and other tests the absence of specific emotional complexes, Luria suggested to subjects under hypnosis that they were performing activities which had deep emotional significance for them because they were in conflict with the conscious desires of their personalities. The subjects show great agitation and respond with the emotions appropriate to the conflicting situations. When aroused from their hypnotic state, however, the subjects cannot recall the suggestion, but show signs of general anxiety, indicating that some severe trauma is concealed.[13] That the subjects are "charged" with artificial complexes is then indicated by the tests to which they have responded neutrally before. The subjects are then re-hypnotized and the suggestions countermanded. They are then given the same test a third time. The abnormal reactions have disappeared. Before the hypnotic suggestions had been countermanded and the complexes removed, the subjects were requested to make word-chains without the interposition of stimulus-

[11] *A General Introduction to Psychoanalysis* (New York, 1920), p. 98.
[12] A. Luria, *Nature of Human Conflicts* (New York, 1932).
[13] *Ibid.*, p. 133.

words. Since Luria knew the complexes in advance, he could observe accurately the nature of the disturbances accompanying the words.

Luria's findings by this method of experimental psychoanalysis corroborated the hypotheses of Freud. They confirm the fact that unconscious and active mental processes exist; that these processes remain unconscious by reason of a mechanism of repression which manifests itself as resistance in the conflicting nature of the cure; and finally that the free flow of associations is determined and in part derived from the subject's secret complexes.

Basing their technique upon these premises, psychoanalysts have for years been helping their patients to reconstruct their complexes in consciousness, and very often thereby succeeding in bringing about more stable reactions. Considering these circumstances and the degree of agreement on essentials, it is highly probable that the observations made by psychoanalysts are substantially correct. They will unquestionably be subject to further revision and development, but such changes can come about only through special and arduous investigations, whether in the clinic, the laboratory or the nursery. However, Freud's formulations of psychoanalytic theory have serious shortcomings which stem from the melancholy mechanism of the nineteenth century. These we shall now consider.

### I. THE ISOLATED INDIVIDUAL

It is Freud's view that the human infant develops through a number of stages, the main lines of which are predetermined by heredity, and which operate relatively independently of the environment. "It seems to be phylogenetically established," he says, "in what sequence the individual impulsive feelings become active and how long they can manifest themselves before they succumb to the influence of a newly appearing impulse or to a typical repression."[14] Thus, he contends that the essential development of the individual is determined not in a social milieu, but almost exclusively from within, that only later does the social milieu impose itself upon the predestined impulses, and that the natural man is always with us whatever the social influences. Freud postulates an "ineradicable animal nature" of man, which he calls the id,[15] and in a similar manner he speaks of the "con-

[14] *Three Contributions to the Theory of Sex* (New York and Washington, 1925), p. 96.
[15] For an analysis of Freud's theory of the id, see below, p. 79.

genital libidinal factors" being "awakened" by actual experience.[16] If we begin with the conception that the animal nature of man is immutable, we must agree also that society cannot alter it. But social life unquestionably has an effect upon each individual. Everyone acquires language, learns the rules of conduct, becomes aware of the moral standards; in a word, each individual is a carrier of the particular culture into which he was born. If this culture is incapable of altering in any fundamental way the essential nature, then within each individual there must be a separation between the natural man and the social man. Culture must remain isolated from the inborn nature. The latter is not really changed by culture, but only over-laid with it, weighted down by it, pressed deeper and deeper into the subterranean regions so that it can rise to the surface only if it is properly dressed. Translated into psychological terms, this means that there must be a separation between the hereditary characteristics and the socially acquired characteristics, or that with regard to any single characteristic, "part" will be assigned to heredity and "part" to the environment. It may be admitted, as it was by Rousseau, that the separation is not clear in reality. But *in theory* the dichotomy is essential.

If social institutions can be derived, as Freud assumes, from the innate urges of individuals, it follows that society is nothing but a simple aggregation of such independent units. Society as a *system* of active, practical relationships, evolving according to laws which are not deducible from the nature of individuals, does not exist. There can therefore be no such thing as social laws which are not in essence psychological laws. Sociology as a separate science does not exist. Freud in fact says this: " . . . sociology, which deals with the behavior of man in society, can be nothing other than applied psychology. Strictly speaking, indeed, there are only two sciences—psychology, pure and applied, and natural science."[17]

The individual units studied by psychology are substantially the same on Times Square as in primitive societies. If social institutions are nothing but the working out of these unchanging human atoms, it follows that society itself does not change. Just as a single man may vary his overt behavior while remaining the same at heart, so all of the natural men in aggregation are essentially the same in any era. And

[16] *Collected Papers*, II, p. 178.
[17] *New Introductory Lectures* (New York, 1933), p. 245.

society is the sum total of these immutable units. The costumes, the names, the superficial customs and forms of behavior may vary and the size and complexity of the group be altered. But the fundamentals of society, those institutions derived from the nature of man, these do not change. Such is the implication of the concept of the isolated man.

Anthropological and historical facts demonstrate irrefutably that society has really changed. But here the great social changes which have occurred in the past are minimized. That primitive and modern society differ is admitted without question, but in accordance with the logic of the isolated man, the differences are treated as inessential or as purely quantitative. What is common to all societies is abstracted and then this abstraction is treated as the essence of society. The individual may then be regarded as developing, not in concrete and changing social conditions, but in this abstract society which is reputed to hold for all times and places. The social environment is reduced to a poverty of "constant" factors so that it can hardly be distinguished from a mythical state of nature.

Freud admits the influence of social factors, but the two main conditions which result in the development of the individual forces and the external environment, are regarded as everywhere essentially the same.

> The phylogenetic aspect [he says] is to some extent obscured in man by the circumstance that what is fundamentally inherited is nevertheless individually acquired anew, probably because the same conditions that originally induced its acquisition still prevail and exert their influence upon each individual . . . Apart from this [he continues] it is unquestionable that the course of the prescribed development in each individual can be disturbed and altered by current impressions from without.[18]

Freud has thus skinned, cleaned and boned the social environment.

Marxism offers the very antithesis of the theory of the isolated man in this or any other form. It insists upon the reality and importance of basic social changes. It regards the social order of the last third of the nineteenth century as differing fundamentally from the long line of social orders which preceded it and from which it ultimately evolved. Its three main interpenetrating aspects, bourgeois property relations, Christian (particularly Protestant) sexual morality, and

[18] *General Introduction*, p. 310.

patriarchal monogamous marriage, developed from previous social forms which differed from them in essential ways. Behind the capitalistic, individualistic, competitive economic system, quite different forms of economic life extend into the past to primitive societies. The patriarchal monogamous family can count among its ancestors families which were polygamous and polyandrous, and, among others, family groupings of which the father was not a recognized member. Christian sexual morality, with its emphasis upon modesty and chastity, may be contrasted with societies in which early sexual experiences have been encouraged by adults.

These qualitatively different social institutions could not and did not spring from the inner natures of unchanging individuals. The laws of social phenomena cannot be reduced to the inner urges of its units taken in isolation. For society is not simply the sum total of a number of individuals standing side by side like tombstones in a graveyard. "Social life," said Marx, "is essentially practical."[19] The units are engaged in continuous, active, mutually changing, working relationships. And these practical relations compose a system which moves and develops according to laws which depend upon the inter-relations and not upon the parts taken separately.

Just as the existence of a "capitalist nature" in an individual presupposes bourgeois production relations, so the individual's whole nature is contingent upon all of the social relations in which he develops from birth. Just as the nature of a capitalist is not determined by the single fact that he belongs to the species *homo sapiens,* so his whole nature is determined by his existence in a definite milieu. The properties of man are contingent upon the surrounding field.

Marxism contends moreover that society is not simply the sum total of its units. It moves by laws of its own, social laws, which are not characteristic of nature. The social environment is qualitatively different from the natural environment. And his existence in this qualitatively different field transforms the nature of the individual.

The individual does not even *tend* to develop as he would in the primeval forest. His development is determined by the mutual relations of all the relevant factors in the concrete whole situation. And the primeval forest is not one of these determining factors. The development of the animal, *homo,* in a state of nature would be one

[19] K. Marx, *Theses on Feuerbach,* no. 8.

thing. His development in society is another. Marxism accordingly does not attempt to go back of human beings in historical setting in order to catch a glimpse of the natural man, for the natural man is as unreal as the state of nature upon which he is contingent. No human activity, however primitive it may appear, can occur on a purely biological plane. Sex, hunger, fear, or rage, which we appear to have in common with other animals, are in us inextricably bound up with and changed by social processes. Even the movement of a finger is changed by being bound up with language. In unity with the social, the biological ceases to exist as biology. In a similar manner, the hereditary and the environmental, the biological and the social, cannot be separated except at the cost of abolishing the particular human nature under consideration.

Not only is society in general qualitatively different from a state of nature. Different forms of social organization produced in the course of history also differ qualitatively from each other and move according to their own special laws. In each individual born into such social organizations there is the same interpenetration of the biological and the social. Psychology therefore must not treat the human being as if he developed in relation only to social forms "common" to all societies. Psychology "should be a theory of a living, integral, concrete individual in concrete social conditions."[20]

The development of man in society is not the unfolding of what already existed within. The social adaptations do not perform a negative function alone. It is not a question of the conflict between biological impulses and social blockages. The driving forces are quite as much social products as the social barriers which block them. Nor does society merely provide the forms in which the essential biological man expresses himself. The essential man is as much a social creation as the forms.

In a word, human nature is not a constant thing common to all men by virtue of their simple membership in a particular species. As men change their social conditions according to the laws of motion of society, they change their own natures. "The whole of history," said Marx, "is nothing but the progressive transformation of human nature."

[20] Kornilov, "Psychology in the Light of Dialectical Materialism," in C. A. Murchison, *Psychologies of* 1930 (Oxford University Press, 1930), p. 265.

## II. THE MALE OEDIPUS COMPLEX

Freud's investigations led him to conclude that the repressed affective traumas of later life were intimately connected with emotional experiences of childhood.[21] He found that the most important repressions are concerned with the child's relations to his parents, particularly his mother, relations involving love, jealousy, and antagonism. Without going beyond the popular formula, Freud declares normal love to be the union of two currents, "affectionate feelings and the sensuous feelings."[22] The fact that children have a sexual life is now thoroughly established, and is confirmed, if sometimes reluctantly, by innumerable competent child psychologists. It is agreed that infantile masturbation is well-nigh universal. Nor can the sexual life of the child be brushed aside by the consideration that it is not identical with normal adult sexuality, that it has nothing to do with coitus and reproduction. Sexual behavior cannot be subsumed under reproduction, as some authors still seem to believe. Masturbation, exhibitionism, peeping and sexual curiosity, childish games in which there is a mutual display of sex organs, these do not lead to reproduction, but their sexual character cannot be denied.

Feeding establishes the first stable post-natal relationship of the child to another person. Out of this relation of care on the one hand and dependence on the other, arise the affectionate sentiments of the child. Of the two currents which combine to make normal love, Freud maintains that "affection is the older. It springs from the very earliest years of childhood, and was formed on the foundation provided by the interests of the self-preservative instinct; it is directed towards the members of the family and those who have care of the child."[23]

This affection in both boys and girls is directed primarily toward the mother, and "from the very beginning," says Freud, "elements from the sexual instincts are taken up into it. . . ."[24] Because of the path previously laid down by the dependent condition of the child, his sexual impulses first become directed toward his mother. The child's object-choice must not be conceived in adult terms. In com-

[21] *Collected Papers*, I, p. 290 f.

[22] *Ibid.*, IV, p. 204.

[23] *Ibid.*, p. 204. This statement is often contradicted. Affection is sometimes regarded as the sublimation of sex. In my opinion, this question, like the much disputed one over the term "sex," is of no great immediate importance.

[24] *Ibid.*, p. 205.

parison with the analytic picture which is "an enlarged and accentuated edition of the infantile sketch,"[25] the child's love is but a "feeble adventure in play."[26] It is "something like a premonition of what are later to be the final and normal sexual aims."[27]

As the sexual impulses of the child become more developed, his love begins to assume some of the other characteristics which we generally associate with it. The boy begins to want the mother all to himself. He desires her affection to be fastened exclusively upon him and begins to resent any signs that she loves or is loved by anyone else. He resents the intrusion of any other person who appears to receive her affection or is allowed to caress her. In short, he becomes jealous. Since it is the boy's own father who also receives the affection of the mother, the boy enters into a situation of rivalry in which his father is the principal obstacle to his own exclusive possession of his mother's love. The "little man," says Freud, "wants his mother all to himself, finds his father in the way, becomes restive when the latter takes upon himself to caress her, and shows his satisfaction when the father goes away or is absent."[28]

But the boy also has an affection for his father. His feelings are in this case contradictory. He both loves and hates his father, an emotional attitude which Freud calls "ambivalence." An ambivalent attitude to the father and an object relation to the mother make up the content of the simple positive Oedipus complex in the boy.[29]

This complex, whatever its particular form, and usually it is far more complicated than this diagrammatic sketch indicates, plays a dominating rôle in the unconscious mental life of every individual. It is, says Freud, "the nuclear complex of neuroses."[30] Its importance arises from the fact that these first loves and jealousies of children establish a pattern which under certain conditions dominates the forms taken by adult sexual life. And since this pattern is bound to be repudiated in its original form by the growing personality, the adult impulses may, in the face of later frustration, follow the infantile im-

[25] *General Introduction to Psychoanalysis*, p. 294.
[26] *Ibid.*, p. 295.
[27] *Collected Papers*, II, p. 282.
[28] *General Introduction*, p. 291.
[29] See *Ego and Id* (London, 1927), p. 41. Freud actually says: " . . . object relation of a *purely affectionate* kind to the mother." This statement does not seem to agree with Freud's usual explanation.
[30] *Collected Papers*, II, p. 201.

pulses into repression with pathological results.

Marxism must regard the Oedipus complex, as well as the whole preceding sexual development, as determined in and inseparable from a particular form of the family at a particular stage of historical development. It must take account of the more comprehensive economic and social structure in which this family exists. This structure is the product of a long evolutionary series which has not been a progressive development in a single direction, but a dialectical process in which earlier forms do not expand along their original lines, but are superseded by successive phases which are qualitatively different from one another. We should not expect to find the Oedipus complex a human characteristic of all times and places. It is not the product of the individual in an abstract environment common to all men, but of the individual in particular historical conditions.

This is not Freud's point of view. He believes the Oedipus complex to have universal validity.[31] To him it is not the product of particular historically developed conditions. It is previous to history, previous to society, and the chief generating source of social life, of which other forms of human relations are but extensions. "The beginnings of religion, ethics, society and art," he says, "meet in the Oedipus complex."[32]

The universality of the Oedipus complex has been questioned by several anthropologists, notably by Malinowski. The latter demonstrates that among the matrilineal Trobriand Islanders of Melanesia, family life does not lead to a repressed love for the mother and sexual jealousy of the father, but to a different family complex.[33]

The boy in the Oedipus situation manifests a highly cultivated form of jealousy which results from a long historical evolution. It is an evolution dependent upon the development of individual economic interests and the establishment of monogamous marriage. Such a possessive attitude toward a particular person, absent in many primitive societies where other forms of the family exist, is contingent upon concrete social conditions which are not by any means universal even today. As Malinowski says: "The Oedipus complex corresponds essentially to our patrilineal Aryan family with the developed *patria potestas*

[31] *The Interpretation of Dreams* (New York, 1923), p. 254.
[32] *Totem and Taboo* (New York, 1927), p. 273.
[33] *Sex and Repression in Savage Society* (New York, 1927).

buttressed by Roman law and Christian morals and accentuated by the modern economic conditions of the well-to-do bourgeoisie."[34] To this we must add that it is also contingent upon the correlative development of romantic love which has taken place within historical times and was introduced into the family by the bourgeoisie.

Freud on one occasion seems to recognize the intimate connection between this highly refined jealousy and the social institution of monogamous marriage. He says:

> The demand that the girl shall bring with her into marriage with one man no memory of sexual relations with another is after all nothing but a logical consequence of the *exclusive right of possession over a woman which is the essence of monogamy*—it is *but an extension of this monopoly on to the past.*[35]

In this passage there is a recognition of the movement of society and the consequent development of sentiments, but unfortunately the statement is an isolated one and only serves to illustrate one more link which binds Freud's thought with the bourgeois outlook. If the Oedipal jealousy demanding the "exclusive right of possession over a woman which is the essence of monogamy" is innate, then it follows that monogamy is the form of marriage which most accurately fits human nature. Even if it be admitted that other forms of the family exist, they must be regarded as aberrations from the normal. If Freud has not assumed the eternity of the bourgeois family, he has thus affirmed the immutability of its essence.

### III. THE ANIMAL NATURE OF MAN

The child's sexual life is not a simple and static thing. It is surprisingly rich and varied in content. Freud has described its dialectical development. The sexual life, he says, "does not first spring up in its final form, does not even expand along the lines of its earliest forms, but goes through a series of successive phases, unlike one another, in short . . . many changes occur in it, like those in the development of the caterpillar into the butterfly."[36] Each stage is overcome by the next and forced into repression.

This psychosexual development, like the Oedipus complex which is

[34] *Ibid.*, p. 5.
[35] *Collected Papers*, IV, p. 217.
[36] *General Introduction*, p. 288.

"the essential part of its content,"[37] is thought by Freud to proceed independently of the social milieu. It is reputed to be a mode of development common to all human beings whether born in the jungle or in a taxicab. Freud sometimes refers to the part played in this development by external "reality," but this reality is of the most abstract kind. It does not include the differences between one society and another. There is not even a clear differentiation between society and a state of nature. This reality is thought to consist of those circumstances which are everywhere and at all times the same. "I cannot feel surprised," says Freud, "that what was originally produced by certain circumstances in prehistoric times and was then transmitted in the shape of a predisposition to its reacquirement should, *since the same circumstances persist,* emerge once more as a concrete event in the experience of the individual."[38]

This concession to a thin, colorless and static "reality" can easily be and often is withdrawn. Freud believes that it is not even necessary for the same circumstances to persist. If the child's own experience does not provide sufficient material in which the inborn pattern may express itself, he will reach out beyond his own individual life to the experiences of his ancestors. "He fills in the gaps in individual truth with prehistoric truth."[39]

Freud contends likewise that the child thrusts his way into society precisely as he would have done into a state of nature. His development is nothing but the "natural" development. Although this entire infantile pattern must be repressed into the unconscious early in life, there it becomes reinforced, particularly at puberty, by the maturing instincts. It retains in the unconscious its purely biological character. The "ineradicable animal nature of man" persists throughout life as a special region of the personality called the "id." This is the fully grown natural man who lives in every society and must be kept always under the control of social restrictions: " . . . each individual, successively joining the community, repeats the sacrifice of his instinctive pleasures for the common good."[40]

Freud admits, as did the theorists of the social contract, that it is difficult to distingush between "what is fundamental" in human nature

[37] *Collected Papers,* II, p. 201.
[38] *Collected Papers,* III, p. 578.
[39] *Ibid.,* p. 577.
[40] *General Introduction,* p. 23.

and what has been imposed by society. "It is not always easy," he says with considerably more optimism than Rousseau, "to distinguish between what is due to the influence of the sexual function and what to social training."[41]

The separation in the personality between the biological and the social is not manifested in overt behavior. To discover the natural man is a perplexing problem. "What experiments," asks Rousseau, "would have to be made, to discover the natural man? And how are those experiments to be made in a state of society?"[42]

Freud appears to believe that the psychoanalytic technique is exactly what Rousseau needed. It is by means of this technique that he has uncovered what he believes to be "man's archaic inheritance," the id.[43]

The id is "what is original, primitive and infantile in mental life, what we find in operation in the child, but in part overlook in him because it is on so small a scale. . . . "[44] It is "something analogous to instinct in animals. . . . " It includes "all that is discarded as useless during childhood and this need not differ in its nature from what is inherited."[45] But the id is not at all like Rousseau's noble savage. It is a "cauldron of seething excitement."[46] It is a bundle of strivings or wish impulses which in themselves know no restraint. If they contradict each other, neither is cancelled, but both fuse to form a compromise impulse. There is no negation in the id, no doubt or hesitation. It seeks immediate satisfaction, uncontrolled by any circumspection, or any comprehension of delay. It is completely subordinated to the striving for pleasure. It refuses to be concerned with the exigencies of real life and its fluidity enables it to flow into substitute channels if one channel of satisfaction is closed to it. If frustrated in reality, it finds satisfaction in fantasy. It is completely amoral, for it is purely biological and cannot be changed by social influences.

Like the natural man of Hobbes, this creature cannot exist in society without the constant imposition of restraint. The id cannot be changed in its essential nature by external influences. It is ineradi-

[41] *New Introductory Lectures*, p. 180.
[42] Rousseau, *Origin of Inequality* (Modern Library ed.), p. 169 f.
[43] *Collected Papers*, II, p. 201.
[44] *General Introduction*, p. 187.
[45] *Collected Papers*, IV, p. 127.
[46] *New Introductory Lectures*, p. 104.

cable. But it can be subdued and controlled. Society can oppose to it barriers which prevent its activity in certain anti-social directions and steer its impulses to a certain extent into productive channels.

From this point of view, the primary task of society must appear to be the suppression of the unrestrained biological urges. Freud's views on education are at once this logical conclusion of the concept of the isolated man and also a reflection of patriarchal authority:

> Let us get a clear idea of what the primary business of education is. The child has to learn to control its instincts. . . . The function of education, therefore, is to inhibit, forbid, and suppress, and it has at all times carried out this function to admiration. . . .
>
> But we have learnt from analysis that it is this very suppression of instincts that involves the danger of neurotic illness. . . . Education has therefore to steer its way between the Scylla of giving the instincts free play and the Charybdis of frustrating them. Unless the problem is altogether insoluble, an optimum of education must be discovered, which will do the most good and the least harm. It is a matter of finding out how much one may forbid, at which times and by what methods.[47]

It is evident that the view is highly mechanical. The central question involved is a quantitative one. The ideal is to find an "optimum" of education which will restrain the natural man without making a neurotic out of him. At this point, education will have reached its ultimate limits and society will be capable of nothing more in the way of producing better human beings.

> If we can find an optimum of education which will carry out its task ideally, then we may hope to abolish one of the factors in the aetiology of neurotic illness, viz. the influence of accidental infantile traumas. *The other factor* [my italics, F. B.], the power of a refractory instinctual constitution, can never be got rid of by education.[48]

The movement of society and the development of human beings through this movement is nowhere apparent. The highest ideal which Freud can imagine is a simple mechanical balance of forces between the unchanging natural man and invariable social restraints.

Freud often speaks of the "transformation of instincts" and a great

[47] *New Introductory Lectures*, p. 203 f.
[48] *Ibid.*

part of his work is devoted to elucidating the ways in which these transformations occur. On the other hand, he insists that the id which is the totality of instincts remains the same, which is only another way of saying that essentially the instincts are not really transformed. The latter is in fact Freud's considered opinion. Momentarily the instincts may make themselves visible in disguised fashion. The disguises may change from moment to moment and from one historical period to another, but they themselves are no more really changed than is the face of a child by being covered with a mask. The "mental representatives" of the id, both in the conscious and the unconscious, may vary, but that which they represent, the id itself, is in the fullest sense of the word immutable.

We must pause a moment to consider this relation between the immutable id and its extremely variable mental representatives by which it has become known to us. The postulation of immutability leads invariably to philosophical idealism and the abandonment of scientific materialism. We shall in fact trace Freud's transition from mechanism to vitalism. According to him, an instinct "can never be an object of consciousness . . . only the idea that represents the instinct. Even in the unconscious, moreover, it can only be represented by the idea. If the instinct did not attach itself to an idea or manifest itself as an affective state, we should know nothing about it."[49]

The mental representatives of the id, which are not the id-in-itself, provide the only evidence we have that the id exists. If these mental representatives were abolished, the immutable id-in-itself would still remain. Such is the implication. The id-in-itself therefore is not only immutable; it is also unknowable!

Osborn attempts to reconcile the theory of the ineradicable animal nature of man with Marxism. He believes that psychoanalysis is the "science dealing with the desires and urges characteristic of man. . . . " Marxism is "the science dealing with the external conditions which either fulfill or frustrate those desires." It is only necessary to add them together to produce a theory of the dialectical relation between the individual and society. There is an "interaction between the inner instinctive urges and the world of economic and social necessity." This interaction Osborn wishes to call a dialectical unity.[50]

[49] *Collected Papers*, IV, p. 109.

[50] Osborn, *Freud and Marx* (New York, 1937), p. 134 f.

The unity or interpenetration of opposites means nothing at all if the opposites do not interpenetrate. That is, the unity of the two opposing facts must involve their mutual transformation. Each factor, by forming a real active unity with the other, becomes subordinated to this new and larger whole and is transformed qualitatively. The two opposites form an internal unity. They permeate each other. For Osborn, the "interaction" of the biological and the social remains an external surface relationship. If the instinctive desires and urges are characteristic of man in general whatever his social mileu, it is obvious that the urges are not at all changed by this "interaction" with the social environment. The behavior or the ideas which result from this interaction may change, but the id itself remains intact.

If the id is immutable, then clearly it never submits to the social adaptations. To put an unalterable unit into a changing pattern and to call the result a unity of opposites, as Osborn proposes, is to misunderstand Marxism. Osborn attempts to show that this position is in agreement with Marx. Marx, he says correctly, did not conceive of the individual as passive. The individual is not an inanimate mirror reflecting the external world. The sensuous perception of the world must not be conceived as "contemplation" but as "human sensuous activity, practice," i.e. "subjectively."[51] This "subjective" aspect of human life is taken by Osborn to be the id. He erroneously interprets Marx to mean that the subjective side is *purely biological.* This interacts with the external world and particular forms of behavior and thought result. But even in the elementary act of sensuous perception, man does not see with the pristine eyes of the natural man. According to Marx the education of the five senses is itself "the product of universal history."

The social environment has its effect upon the individual largely through the functional development of the cortex, a development which occurs principally under the influence of language. These new social functions are in opposition to the lower functions of the subcortex. Modern neurologists recognize the strife which exists between these two spheres. But many of them do not recognize that these two spheres interpenetrate each other to form a new and more inclusive unity. Such a conception is only a repetition of the purely mechanistic belief that the activity of the whole organism is simply the sum

[51] Marx, *Theses on Feuerbach,* no. 1.

total of the activities of the individual body cells, each one of which is capable of excitation and inhibition. The cortex is thought to be capable only of inhibiting the excitations of the sub-cortex.

But no activity, however primitive, of a socially developed human being can occur which does not involve the higher functions. It is not enough to say that everything that distinguishes man from the beasts, everything that is specifically human is dependent upon language. Such a view still retains the conception of a common animal nature which is not dependent upon language. Even those activities which we appear to share with other animals are in us bound up inextricably with social processes. *"All* of human behavior," says Luria on the basis of his experiments, "is strictly dependent upon the higher cortical mechanisms which we are accustomed to designate as the intellectual processes."[52]

The "sexual function" like the whole rest of the human being develops in a social milieu. The social adaptations do not lie mechanically upon the isolated biological basis. The social and the biological form a unity in which they are mutually transformed. The biological becomes subordinated to the newer functions and becomes itself something new. As Luria says:

> Speech and the use of signs, the permutation of activity by the use of cultural means make the human being a *new biological species in history.* These new functions do not remain isolated in the psychological processes, but permeate the whole activity and structure of behavior, so that we find them literally in every movement of the fingers.[53]

The fact that heredity and environment do not form a mechanical relation of simple opposition has not escaped Freud's discerning eye. He has unquestionably perceived the unity of these opposing factors, their fusion as well as their strife. But Freud began upon the premises of nineteenth century mechanism, a philosophical view which does not admit the existence of such contradictions in real life. He is unable to escape from this stultifying position. Not being able to formulate his observations theoretically, he is unable to build upon them and make them an integral part of his thinking. It is instructive to consider some of his hesitant and incomplete attempts to express the fact that

[52] Luria, *The Nature of Human Conflicts,* p. 378.
[53] *Ibid.,* p. 426-28.

the biological is not really so ineradicable as we have been led to suppose. The ego, which we shall consider more in detail later, is a region of the personality developed in relation to experience.[54] The relation between the hereditary and environmental factors within the person is expressed as a relation between the id and the ego.

"It would be unjustifiable to conceive of the ego and the id as if they were two opposing camps . . . ," Freud declares, for "on the one hand, the ego is identical with the id, is only a specially differentiated portion of it." Moreover, "as a rule we can distinguish them only when a state of tension, a conflict between them, has arisen."[55] Yet it is clear from the statement which immediately follows that the relative identity of the ego and the id does not really involve their interpenetration: "the ego is an organized identity whereas the id is not."[56] The differentiation of the ego from the id and their existence in unity does not at all affect what is left of the id. It remains as unorganized as before. The relation between the two is one of *attachment*. The ego is a surface modification of the id which does not transform the rest of the id. The same difficulty is shown again when Freud uses the terminology of whole and parts. "The ego," he says, "advances from the function of perceiving instincts to that of controlling them, but the latter is only achieved through the mental representative of the instinct becoming subordinated to a larger organization, and finding its place in a coherent unity."[57]

It might appear that Freud is stating what Luria has proved, that the biological becomes transformed by becoming subordinated to the social adaptations, by becoming a part of a larger functional organization. But it is not really the instincts themselves which become subordinated to a more inclusive unity. It is only the "mental representative of the instinct." This is made certain a moment later when Freud repeats what he seemed to have corrected. "In popular language," he adds, "we may say that the ego stands for reason and circumspection while the id stands for the untamed passions."[58]

[54] As we shall see, this "experience" is not specifically and concretely social experience, even with the inclusion of the explicitly super-ego.

[55] *Problem of Anxiety*, p. 29 f.

[56] *Ibid.*

[57] *New Introductory Lectures*, p. 107.

[58] *Ibid.*, p. 107.

The difficulty seems to be that Freud observes in real life the unity of opposites but cannot formulate this observation satisfactorily because his theoretical premises demand the separation. He himself tells us that this is the case. "So we see in practice," he says, "a continual mingling and blending of what in theory we should try to separate into a pair of opposites—namely, inherited and acquired factors."[59] The animal nature of man is in practice changed. Theory must recognize this fact, and acknowledge that the biological organism in society is transformed into the psychological.

Even in his most absurd speculations, of which there have been a number in recent years, Freud invariably has in mind specific phenomena which he has actually observed when he refers to the id. It is the infantile mental life.[60] This he believes to be biological. The fact that it is not does not prevent it from existing. When Freud speaks of the ineradicability of the id, he is referring to his observation that the infantile modes of expression, the impulses and conflicts and complexes of childhood persist in the unconscious of each adult, relatively unchanged.

Neurotic symptoms are compromise expressions of the still existing complexes developed in early life. Just as the complexes inserted by Luria caused disturbances in the responses of his subjects, so these infantile complexes persist in the unconscious of the adult and produce effects which under certain conditions become pathological. That these complexes, conflicts, loves and hates form a special region of the personality is shown by the fact that an individual may revert almost entirely to such infantile modes of expression.

The earlier mental state may not have manifested itself for years, but none the less it is so far present that it may at any time again become the mode of expression of the forces of the mind, and that exclusively, as though all later developments had been annulled, undone. This extraordinary plasticity of the evolution that takes place in the mind is not unlimited in its scope: it might be described as a special capacity for retroversion—for regression—since it may well happen that a later and higher stage of evolution, once abandoned, cannot be reached again. But the primitive stages can always be re-established; the primitive mind is in the fullest meaning of the word, imperishable.[61]

[59] *Collected Papers*, II, p. 229.

[60] *General Introduction*, p. 187.

[61] *Collected Papers*, IV, p. 301. This absolute immutability of the infantile repressed

The detection in adults of infantile modes of expression and the recognition that adult conflicts can be bound up with disguised infantile conflicts is the basis of Freud's theory of neuroses. Individuals fall ill of frustration. But the blockages presented to adult activity, becoming more and more numerous and intolerable as capitalism becomes more moribund, are not alone capable of producing neuroses. It is necessary also to understand the blockages confronting childhood activity and the way in which the earlier and later conflicts become bound up together.

Frustrated adult impulses abandon adult modes of expression and become bound up with the id, attempting to obtain gratification according to the peculiar manner of the id. The concept of the id formulates the fact that under capitalism and perhaps not exclusively there, individuals are unable to overcome and successfully resolve the conflicts of childhood. These conflicts become isolated from consciousness and from motor expression. They remain in the unconscious relatively unchanged, a part of the personality, yet foreign to it, intruding upon the domain of adult life, producing effects which may be useful but which in any case cannot be rationally controlled.

Not understanding the dependence of individual development upon social processes, Freud has tended to omit any serious examination of the conditions of infantile development. He often mentions the social circumstances, and his observations are sometimes exceedingly acute, but since they are not an integral and necessary part of his theory, they tend to be casual and haphazard. Freud has probed deeply into what the individual is and what he becomes, but by omitting the necessary conditions of this development, he hardly approaches the real scientific question of how this development takes place. The observation that the infant passes through certain stages from birth on remains simple description so long as the conditions of this development and the functional relations between the conditions are neglected. Scientific laws require more than the description of phenomena. They require the elucidation of the totality of conditions in which the phenomena are produced. Freud has discovered the results of a system of causal relations, but he has not discovered the causal relations themselves.

impulses has more recently been questioned by Freud himself. See *Problem of Anxiety* (New York, 1936), p. 109, note.

Instead of being set firmly in a real social context, the individual has been placed in an erroneous philosophical construction.

Freud fails to see that not only is the infantile mental life contingent upon the social milieu, so that it will be different in different societies, but also that the persistence into adulthood of this mental life whatever it may be, is not an invariable characteristic of human nature. The sharp split between the infantile development and the later development is the product of definite social processes.

The bourgeois family is the economic unit of capitalist society. Here, where each child begins his development as a social being, are to be found forms of all the contradictions inherent in bourgeois culture as a whole. Here Puritan morality, patriarchal authority and bourgeois property relations meet. Besides these, the bourgeois family has contributed its own special contradictions to the world of the newborn child. To mention one conspicuous and important example, the bourgeoisie has imported into the patriarchal monogamous family the conceptions and sentiments of romantic love which previously existed only outside this economic unit of society. The antagonism between husband and wife which grows out of patriarchal society becomes bound up with its opposite, romantic love between the economic partners. What was formerly a more or less pleasant or unpleasant and admittedly unequal economic arrangement, becomes a deeply emotional love relation characterized as Freud would say by ambivalence. The inferior status of the wife is retained, but it is contradicted by the equality which is assumed as the basis of the love relation. It is this new arrangement which, for example, stamps its character upon the jealousy of the Oedipus complex and makes of it a highly cultivated sentiment.

In such a unit, where all the contradictions of capitalism, economic, social, intellectual and emotional are focused, life for the child begins. The child is immediately plunged into a most confusing situation. The emotional relations between his parents involving all their sexual maladjustments stimulate in the child precocious intensities of love, hate and jealousy. "The strict training which tolerates no sort of expression of this precocious sexual state lends support to the forces of suppression, and the conflict at this age contains all the elements needed to cause lifelong neurosis."[62]

[62] *Collected Papers*, II. p. 97.

When a child is born into a bourgeois family, he immediately falls heir to a vast number of contradictions growing out of the nature of the social order. The child is incapable of dealing with them. His further development does not proceed upon the basis of the resolution of his mental conflicts. It can be based only upon escape from them by means of relegating them to the unconscious where they remain to plague him through adulthood on still more intense levels.

Why does the frustrated adult revert to these unresolved conflicts? The bourgeois family is not only a focal point for the contradiction of capitalism. There is also an antagonism between the family and society as a whole. The family is not just a part of society fitting neatly into the larger scheme. In some ways it contradicts the system of which it is a part.

In spite of the antagonisms and conflicts in the bourgeois family, there is no doubt that within this group the friendly, affectionate, social impulses are first developed. While there is hatred and enmity, there is also love and mutual loyalty. If there is competition, there is also the possibility of trust.

This aspect of family life presents the sharpest contrast to the impersonal, competitive and anti-social activities which characterize adult life in the world of business. The individual emerges from family life, where love and trust are possible, into a world in which hatred and envy are indispensable. Each individual is reared to require love and to depend upon it, and no individual can find it in the individualistic anarchy of bourgeois life. The bourgeoisie is a race of "hollow men," of lonely, isolated men. Each one is searching for friendliness and companionship. The man who marries the girl so much like his mother, the poet who joins the church, the psychologist in search of his soul, each demonstrates that the social needs developed in infancy are not satisfied in adult life. The need for mutual dependence created in the family is to be satisfied only in the working-class movement, for the conditions of life increasingly set the bourgeoisie at each other's throats and increasingly bind the workers together with ties of mutual friendship and trust.

The only sphere in which the bourgeois has ever known any degree of dependable social ties is in the family. However bad it is, the family creates social beings who are thrown into an anti-social world. The neurotic technique is only the attempt of an isolated individual to

get back to the family where mutual dependence was possible. But in retreating to the security of infancy, the neurotic must also re-enter the old unresolved conflicts of that period.

The key to the relations between Freud and Marx is not to be found in the relation of the subjective to the objective, nor in the relation between society and the instinctive "desires and urges characteristic of man." It is to be sought in the relation between bourgeois society as a whole and the bourgeois family. Marxists must study the way in which the economic and social contradictions of society as a whole combine with the subordinate contradictions of the individual family to form the conditions of development of the infant. They must study the way in which the family conflicts with society as a whole. Only then will the individual discovered by Freud find his place in the totality of conditions which determine his developing nature. Only then will we have a science of psychology which is a theory of a living concrete individual in concrete social conditions.

### IV. CLASS SOCIETY AND THE SUPER-EGO

While Freud regards the driving forces of the individual as independent of society, when he comes to analyze the restraining forces, he makes serious if unsuccessful attempts to draw the social order into the structure of his theory. The organism begins, he believes, in obedience to its instinctive urges by seeking pleasure and avoiding pain.[63] As we learned in considering the id, instincts are impulsive; they demand immediate satisfaction; they are devoid of foresight and planning capacity. Obviously, such instinctive thoughtless striving for pleasure must often bring the organism into situations of grave danger. If the organism is to continue to exist, it must learn by experience to postpone the satisfaction of its desires when these involve danger or threaten pain. The impulsive urges of the sexual instinct come into conflict with the interests of self-preservation, and under the influence of these latter urges, the organism learns circumspection and caution. The id becomes modified by its relation to the outside world and this modification is called the "ego."

"On behalf of the id," says Freud, "the ego controls the path of access to motility, but it interpolates between desire and action the procrastinating factor of thought, during which it makes use of the

[63] As we shall see later, this assumption has more recently been revised.

residues of experience stored up in memory. In this way it dethrones the pleasure-principle, and substitutes for it the reality-principle, which promises greater security and greater success."[64]

It is necessary to emphasize the assumption that the ego does not develop in relation to specifically social factors. The "reality" which Freud continually invokes to explain the ego is a quite undifferentiated, abstract "external world" common to all forms of life. This abstract reality is only the representation of difficulties and dangers in general. No distinction is made between the physical barriers confronting animal life in a state of nature, and the social barriers confronting man.

It is only in relation to society that organisms acquire the ability and are confronted by the necessity for the self-imposition of taboos. Repression is exclusively a social phenomenon. Freud does not therefore attribute to the simple ego either the capacity or the desire to repress the id impulses. Only in the presence of actual danger does the ego restrain the id. It is at bottom in favor of the id impulses. It is only concerned that gratification should be attained without injury to the organism.

While the ego is common to men and to "much simpler forms of life,"[65] the antagonism between the ego and the id exists only in man. Even in man, this antagonism does not develop until social morality has been embodied in the individual as conscience. And conscience is not a function of the simple ego, but of a later differentiation of the ego called the super-ego. Social reality, as distinct from abstract physical reality, plays no part until the formation of the super-ego. Even in accounting for this explicitly social function, Freud finds it well-nigh impossible to get away from the germ-plasm and into the stream of history.

Conscience [he says] is no doubt something within us, but it has not been there from the beginning. In this sense it is the opposite of sexuality, which is certainly present from the very beginning of life, and is not a thing that only comes in later. But small children are notoriously a-moral. They have no internal inhibitions against their pleasure-seeking impulses. The rôle, which the super-ego undertakes later in life, is at first played by an external power, by parental authority. The influence of the parents dominates the child by granting proofs of affection and by threats of pun-

[64] *New Introductory Lectures*, p. 106.
[65] *General Introduction*, p. 359.

ishment, which, to the child, means loss of love, and which must also be feared on their own account. This objective anxiety is the forerunner of the later moral anxiety; so long as the former is dominant, one need not speak of super-ego or of conscience. It is only later that the secondary situation arises, which we are far too ready to regard as the normal state of affairs; the external restrictions are introjected, so that the super-ego takes the place of the parental function, and thenceforward observes, guides and threatens the ego in just the same way as the parents acted to the child before.[66]

Freud believes that when the small boy finds himself in a position of rivalry with his father and is in danger, as he supposes, of castration, his only solution is to give up his sexual impulses for his mother and his antagonism for his father. He can only do this by identifying himself with his father and turning his own hostility against himself. By this act of identification, he internalizes the parental function which becomes a part of himself, a region of his personality, the super-ego. The prohibitions which formerly could be enforced only in the presence of the threat of punishment are now self-imposed. In the super-ego, joined with the hostility which he now turns upon himself, the child now carries with him the threat of castration which previously had to come from the outside. "Just as the super-ego is the father become impersonalized, so the dread of the castration which he threatened has been converted into indefinite social anxiety or dread of conscience."[67]

So far, there has been no mention of society. The father might be the primal father in a state of nature. But now the father is a social father, the embodiment of social morality. The super-ego "becomes the vehicle of tradition and of all the age-long values which have been handed down *in this way* from generation to generation."[68] The development of the super-ego is synonymous with socialization. A person without a super-ego, and therefore presumably a child under five years of age, would be "not at all socialized."

It is easy to recognize here the social contract all over again. The child develops not only his id, but also his ego independently of society. He grows up in a sort of artificial state of nature which is con-

[66] *New Introductory Lectures*, p. 89.
[67] *New Introductory Lectures*, p. 95.
[68] *Problem of Anxiety*, p. 85.

tingent upon Freud's abstraction of every vestige of social life from the "external world." Only later does the child identify himself with his father who represents social reality, and by this action agrees to submit himself to social law. "The ego does not feel at all comfortable when it finds itself sacrificed in this way to the needs of society."[69] Only at this point is the child's personality definitely altered by the fact that he was born into society instead of in the primeval forest.

Repression is derived in the first place from society. If the super-ego is, as Freud appears to maintain, the only inlet of social tradition into the personality, we must agree with him that the super-ego is the absolute condition for repression. Even before the explicit formulation of the concept of the super-ego, Freud made it clear that repression was not and could not be a function of the simple ego, but only of the "moral and aesthetic tendencies in the ego."[70] These tendencies were at that time comprised in the term "ego-ideal," and Freud stated: "From the point of view of the ego this formation of an ideal would be the condition of repression."[71] Now that the super-ego has become an established region of the person, the same conclusion is expressed still more clearly. "We can say," according to Freud, "that repression is the work of the super-ego—either that it does its work on its own account or else that the ego does it in obedience to its orders."[72]

Freud has here involved himself in an insoluble dilemma. If the super-ego is indeed the condition of repression, repression must not occur until the formation of the super-ego. But he has observed that this is not the case; that in fact, when the Oedipus complex develops, "repression has already begun in the child and has withdrawn from him some part of his sexual aims."[73]

There are, Freud says, two kinds of repression, primary and subsequential. Primary repression takes place prior to the erection of the super-ego. "At all events," he adds, "the first, and very intense attacks of anxiety occur prior to the differentiation of the super-ego."[74]

In short, social morality, which had been relegated to the later formation of the super-ego, is observed to be taking effect long before

[69] *New Introductory Lectures*, p. 152.
[70] *Ego and Id*, p. 47.
[71] *Collected Papers*, IV, p. 51.
[72] *New Introductory Lectures*, p. 98.
[73] *General Introduction to Psychoanalysis*, p. 289.
[74] *Problem of Anxiety*, p. 24.

this differentiation. Freud, who had thought he was able to bring up a child untouched by society, finds definite signs of social influence where nothing would be expected to exist except the natural man. In the face of this contradiction, he begins to withdraw his assertions about the function of the super-ego. "One easily runs the risk," he says, "of overestimating the rôle of the super-ego in repression."[75] But if the traditional social and moral values are passed on from generation to generation through the medium of the super-ego, then this region is the inescapable condition of repression.

For Freud the dilemma is a real one, and he is driven back to the postulation of organic repressions, purely biological and dependent upon the strength of a stimulus or the intensity of an instinctual impulse. "It is entirely reasonable," he writes, "to suppose that quantitative factors, such as a stimulus of excessive strength, with the failure of the safety device protective against too powerful stimuli are the most direct causation of primal repression."[76]

Freud never mentions this "safety device" again. But he refers many times to these "organic repressions." Particularly in *Civilization and Its Discontents* are various evolutionary speculations adduced to account for several alleged innate repressions. "Only the later repressions," he says elsewhere, "display the mechanism which we have described, in which anxiety is called forth as a signal of an earlier danger-situation; the earliest and most fundamental repressions arise directly from traumatic factors, where the ego comes into contact with an excessive libidinal demand."[77] Freud would lead us to believe that the ego regards the "excessive" libidinal demand as dangerous in itself in spite of the fact that it has never brought the organism into a painful or dangerous external situation. But elsewhere Freud contends that no libidinal demand, however excessive, can itself lead to repression, for "frightening *instinctual* situations can in the last resort be traced back to *external* situations of danger."[78]

One would think from Freud's account that the child's acquisition of "tradition" and "age-long values" begins with his identification with his father at the age of five, and that language, which he has al-

[75] *Ibid.*, p. 24.
[76] *Ibid.*, p. 25.
[77] *New Introductory Lectures*, p. 130.
[78] *Ibid.*, p. 124.

ready acquired long before this time, is incapable of transmitting to him any traditional values. If this is the assumption, if the ego as well as the id is to be regarded as the natural man, it is not astonishing that a new dilemma should present itself.

Only if the super-ego is regarded as the sole repository of social morality does the previous appearance of social morality become a mystery. If the ego is regarded as fully as much a social product as the super-ego and also capable of repression, the dilemma disappears. Nor is it necessary to solve the difficulty, as some psychoanalysts have, by assuming that the super-ego really begins to develop much earlier than Freud supposes. To the ego may be referred the primary repressions, and to the combined ego and super-ego the subsequential repressions.

The super-ego, moreover, which is of all the regions of the mind explicitly social, becomes so not as the logical consequence of Freud's theory. He traces the development of the child in an abstract environment in which the father himself appears only as a physical father, differing in no essential respect from the primal father. He exists only as an "external power." In the presence of this imaginary creature the little boy "naturally" repudiates his sexual impulses. Only at this point does Freud seem to realize that he has accounted for the whole personality without once referring to tradition and culture, much less the social relationships. But where are these facts to fit in? Although it is not a necessary consequence of his theory, Freud simply asserts that this father is the embodiment of social tradition.

Freud does not appear to be wholly satisfied with his own account, and since his premises make it impossible for him to grasp any more thoroughly the place of society in individual development, he retreats once again to the genes. Just as he was forced to ascribe primary repression to the biological organism in isolation, so he tends to regard even the subsequential repressions of the super-ego as phylogenetically determined. He is inclined to attribute to heredity the moral and esthetic tendencies, the "higher nature of man," characterizing the super-ego. He says: "the ethical strivings of mankind . . . are an acquisition accompanying evolution; they have then become the hereditary possession of those human beings alive today although unfortunately in a very variable measure."[79] In another place, he speaks

[79] *Collected Papers*, IV, p. 312 f.

of the "moral acquisitions" being developed by the male of the human species and transmitted to the female by "cross-inheritance."[80] For Freud, nothing exists besides nature and man. Society is for him a closed book.

If the ego is regarded as a social product and, like the super-ego, capable of repression, what difference is there between these two regions of the mind and why is there a split between them? Freud demarcates three regions of the personality. "From the point of view of morality, the control and restrictions of instinct," he says, "it may be said of the id that it is totally non-moral, of the ego that it strives to be moral and of the super-ego that it can be hypermoral and then becomes as ruthless as only the id can be."[81] This hypermorality and self-punishment, which is in its most severe aspects unconscious, comes to the surface in certain forms of mental disorder, notably in melancholic attacks. In such cases, the patient's suger-ego (to use his words)

> becomes over-severe, abuses, humiliates, and ill-treats his unfortunate ego, threatens it with the severest punishments, reproaches it for long-forgotten actions which were at the time regarded quite lightly, and behaves as though it had spent the whole interval in amassing complaints and was only waiting for its present increase in strength to bring them forward, and to condemn the ego on their account. The super-ego has the ego at its mercy and applies the most severe moral standards to it; indeed it represents the whole demands of morality, and we see all at once that our moral sense of guilt is the expression of the tension between the ego and the super-ego.[82]

The child's acceptance of demands and prohibitions as a part of himself is accomplished by his identification of himself with his father, not as he actually exists, but with his father as he should be and is presumed to be but is not. The child internalizes his idealized father and the moral standards to which his father is presumed to adhere strictly. He takes over bodily his father's *super-ego*.[83]

The irrational demands, prohibitions and ideals of this standard of conduct and morality are not only in sharp contradiction with the immoral impulses which grow out of actual life, but also with the morality which is actually in practice. The super-ego prescribes as the

[80] *Ego and Id*, p. 50.
[81] *Ibid.*, p. 79.
[82] *New Introductory Lectures*, p. 87 f.
[83] *New Introductory Lectures*, p. 95.

norm a nobility and purity which is impossible and then lacerates the ego for failing to live up to this norm.

The super-ego is the heir of the Oedipus complex.[84] Although it is opposed to the Oedipus desires and represses them, it nevertheless grows into being out of that very complex. The conditions under which the Oedipus complex is formed and repressed are patriarchal dominance together with the Christian belief that sex is sin. The development of patriarchal authority is bound up inextricably with the development of classes and is in our society the product and support of bourgeois class relations. What is the relation between such social conditions and the hypocritical moral standard of the super-ego which is enforced upon it by irrational authority? Is there any relation between a patriarchal class society and the fact that an impossible ideal becomes accepted as reality and is thus enforced?

No society which depends upon the exploitation of one class by another and of female by male can maintain itself by force alone. In such a system force must be supplemented by and is intimately bound up with deception and self-deception. Those who are exploited remain in their inferior positions not alone through physical fear, but because they themselves accept the social relations which degrade them. This acceptance is a necessary part of their degradation. But in adjusting themselves to the injustices, the brutalities and the moral and physical agonies of such a system, both exploited and exploiters accept "fictions." They act "as if" these fictions corresponded with reality.[85]

The exploitation, the unnecessary suffering, the cruel absurdities of everyday life must be made to seem as acceptable to everyone as they really are to the ruling classes. The distorted view of the rulers which sees perfection in a society of which it appropriates the benefits tends to penetrate the obscurest hovel. For those miseries which cannot be concealed, glossed over or eradicated, consolations must be offered in the form of illusory beliefs and practices. The whole organization of an exploiting society, the very conditions of its existence, the contradictions and confusions all make for the development and acceptance of false conceptions of reality. As the proletariat increasingly breaks through the vast mass of apologetic thought and feeling,

[84] *Ibid.*, p. 91 f.

[85] This is not to agree with the "as if" philosophers that the ability of such fictions to maintain the established social relations intact is the ultimate criterion of their truth.

the bourgeoisie seeks all the more to justify both to itself and to the rest of society the excesses which it commits in its attempt to maintain an authority which is no longer simply irrational, but is rapidly becoming impossible. It must redouble its efforts to confuse the issues, since intellectual clarity is a condition of a successful proletarian revolution. Finally, in order to conceal from itself the inevitability of its impending fate, it must hedge itself in with illusions on every side. The exaggerated and fantastic form this process takes under fascism, the split between what is presumed to exist and what does exist, between what one should or should not do and what is actually done, in short, the separation of theory from practice, shows the inevitable outcome and necessary condition of existence of every exploiting system.

The domination of the father in the family, like the domination of the bourgeoisie in society as a whole, requires for its continued maintenance the acceptance, as truth, of ideals which conflict with reality. That children should love, honor and obey their parents, particularly their father, is the condition of the perfect maintenance in harmony of the patriarchal monogamous family. The very situation which demands such behavior and in fact produces it, creates also its very opposite. The child both loves and hates its parents at the same time, but this hostility, like the sexuality with which it is so closely connected, must remain unacknowledged and is indignantly denied. When the child is forced to renounce his hostility for his father, there is nothing that he can do with it but turn it against himself. Unconscious and unrecognized hostility cannot be utilized consciously. It can find no rational outlet. It turns against the ego in conjunction with the ideal standards with which it belongs from its origin, and this conflict is expressed as an irrational sense of guilt or unconscious need for punishment. It torments the ego, whether any act runs counter to the ideal standard of morality or not.[86]

The recognition and conscious handling of hostile impulses cannot, however, be brought about by admonitions. The hypocritical morality and the undisposed-of hostility are bound up inextricably with the patriarchal authority of the father, interwoven with the categorical imperative of Puritanism, and all together set in a matrix

[86] Frankwood Williams, *Russia, Youth, and the Present Day World* (New York, 1934), p. 64.

of exploiting class relations.

A society which is not founded upon exploitation can afford to be honest. When a system is rational, it does not have to protect itself with self-deceptions. Theory and practice can unite. The moral code in the Soviet Union is the extension of the underlying social relations. There shall be no exploitation, neither of class by class, nor of wife by husband, nor of child by parents. This moral code is no illusory fiction, no hypocritical ideal. It grows out of the fact that exploitation in the Soviet Union is no longer necessary and is fast becoming impossible. The moral code is not an irrational impossible categorical imperative. It is a guide to human relations. Its function is to reveal and make conscious, not to conceal, the real relationships.

Under such circumstances, sex does not have to be repressed in favor of a fictitious purity. Hostility does not have to masquerade in saintly garb. Aggressive impulses which may be produced coincide with reason. Hate is directed toward those things which are hateful. No subterranean hostile urges need be turned against the individual himself. No irrational sense of guilt, no hypermoral hypocritical substitute for social conscience need arise.[87]

### V. THE WORLD WAR AND THE DEATH INSTINCT

As has previously been noted, Freud's mind was moulded in the liberal capitalism of the last third of the nineteenth century and his thought begins with the premises of the mechanistic philosophy of that period. In spite of his many years of work in the twentieth century, he remains unmistakably a thinker of the pre-imperialist epoch. The growth of monopoly which was undermining the liberal epoch in which he matured left his fully formed viewpoint essentially untouched. When the World War broke out, however, there occurred a rapid disintegration of his original mechanistic outlook and the completion of his transition to vitalism.

The distinction between the two periods of Freud's thought can still be clearly observed in his recent condemnation of the philosophical assumptions of his two former pupils, Jung and Adler. He rejects the mysticism of the former, protesting against the explanation of psychological phenomena in terms of religion.[88] He is equally opposed, on

[87] See Williams, *op. cit., passim.*

[88] *New Introductory Lectures,* p. 233.

the other hand, to the instrumentalism that Adler derives from Vaihinger, which in essence denies the possibility of knowing the objective world, insists upon the absolute relativity of truth and appears to maintain that we should believe anything, however fantastic, which enables us to adjust to reality *as it is*. Freud is aware of the social implications of such a theory. "Its use," he says, "is prompted by well-known reactionary currents of present-day feeling which are hostile to science . . . "[89] Furthermore, he delivers the correct answer to such obscurantism: "I will merely remark that the anarchistic theory only retains its remarkable air of superiority so long as it is concerned with opinions about abstract things; it breaks down the moment it comes in contact with practical life."[90]

In opposition to such reactionary tendencies, Freud proclaims that he will continue to abide by the philosophy of science. But the philosophy of science which he defends is the mechanistic materialism into which he was born. Despite his opposition to any form of idealism, and to that of Jung and Adler in particular, it often appears that Freud is following in the wake of his two famous pupils. Even a casual examination of his thinking reveals his tendency to pass over into the very idealism which he repudiates. Osborn's contention that Freud "is a thoroughgoing and uncompromising materialist"[91] is manifestly untrue. The assumption that ethical tendencies and primordial fantasies are inherited cannot be regarded as anything but idealism by anyone who claims to be a Marxist.

Freud reacted to the outbreak of the World War with the utter disillusionment of the liberal who had been blind to the imperialistic developments proceeding beneath an apparently peaceful surface. The "internationalism" of the world market and the consequent "fellowship" of scientists of every nationality had seemed to assure peace to the world. Freud confesses that he suffered from this illusion. There were warnings, he says, that "wars were unavoidable, even among the members of a fellowship such as this. We refused to believe it; . . . then the war in which we had refused to believe broke out, and brought . . . disillusionment."[92]

[89] *Collected Papers*, I, p. 348.
[90] *New Introductory Lectures*, p. 241.
[91] *Freud and Marx*, p. 134.
[92] *Collected Papers*, IV, p. 292.

He observed with dismay the spectacle of "impartial" scientists rushing to the defense of their bourgeoisie with "new" theories purporting to demonstrate the moral, cultural and intellectual inferiority of the enemy. His sympathies were, understandably, with his kin who were fighting against the allies, but his intellect would not permit him to say that they were in the right. "We live," he wrote, "in the hope that the impartial decision of history will furnish the proof that precisely this nation, this in whose tongue we now write, this for whose victory our dear ones are fighting, was the one which least transgressed the laws of civilization . . . but at such a time who shall dare present himself as the judge of his own cause?"[93]

If Freud did not become a hero, at least he did not disgrace himself by any complete loss of equilibrium or shameful irresponsibility. He simply did not understand. The war did not fit into the Freudian theory. It is in relation to this important fact that the further development of Freud's thinking has taken place. Freud had assumed that human beings, in common with all other forms of life, were characterized by two innate urges, to preserve the self and to preserve and increase the species. He had accordingly divided the instincts of man into two main groups, the "ego-instincts" leading to self-preservation, and the sexual instincts. "We thought," he says, "we had firmly grasped not only the difference between the two groups of instincts, but the conflict between them."[94]

The war confronted psychoanalytic theory with a mass demonstration of self-destruction such as had never been seen before. There appeared to be an "overthrow . . . of that instinct which constrains every living thing to life."[95] In the face of such a difficulty Freud did not attempt to explain the outbreak of the war, but contented himself with trying to understand how people could be persuaded to go to war once it had broken out. Egoistic impulses and sadistic components of the sexual instinct as previously described were hardly sufficient to account for the behavior which the war called forth. It was Freud's view that in the course of individual development "bad" impulses are transmuted into good ones, the selfish into the altruistic, the anti-social into the social. Certain experiences are capable of undoing

[93] *Collected Papers*, IV, p. 293. (Published in 1915.)
[94] *New Introductory Lectures*, p. 132.
[95] *Collected Papers*, IV, p. 156.

the civilizing work and regression occurs to the infantile impulses. "Undoubtedly," said Freud, "the influences of war are among the forces that can bring about such regression."[96]

Freud has been tacitly assuming that war comes from the outside, that it is not explicable in terms of psychology. He requires a reference to an entity which apparently acts by laws different from those of applied psychology. This he calls the "state." "The warring state," he says, "permits itself every such misdeed, every such act of violence, as would disgrace the individual man."[97] If the state were nothing but the sum total of a number of isolated individuals, this contrast would be impossible. It is at this point that he seems to perceive, in a distorted form, the existence of social forces as something different from applied psychology.

Freud's tentative explanation, however, instead of overcoming the theory of the isolated man, carries this explanation to such a preposterous point that it is in conflict with the main tenets of psychoanalysis itself. Several references are found in Freud's works to the idea that the individual recapitulates in his development the development of the race. Now Freud suggests: "Perhaps they [i.e., the states] are reproducing the course of individual evolution, and still today represent very primitive phases in the organization and formation of higher unities."[98] Thus, individual men become civilized far in advance of their civilization. This careless suggestion, representing the ultimate in individualistic interpretations, could hardly be taken seriously by Freud himself and he never mentions it again. It is only indicative of the utter helplessness of the Freudian theory to explain the world's most important social and psychological phenomena. Freud admits this. "Actually why the national units should disdain, detest, abhor one another and that even when they are at peace, is indeed a mystery. I cannot tell why it is."[99]

The phenomena of the war could not be explained in terms of any urge toward life nor even in terms of the sadistic components of sex. What was needed was a non-erotic aggressive instinct. The sexual and the ego instincts were, as we have seen, thought to be separate. Further

[96] *Collected Papers*, IV, p. 302.
[97] *Ibid.*, p. 293.
[98] *Ibid.*, p. 303.
[99] *Ibid.*, p. 304.

study, particularly of schizophrenia, revealed that in early infancy no love, no libido is directed toward other people. It is centered upon the self. It is narcissistic. Self-love is the unity of the ego and sexual instincts. The love that is directed toward the self can flow outward to objects and can also flow back again to the ego. "Object libido was at first ego-libido and can be again transformed into ego-libido."[100] "But if this is so," Freud continues, "the two cannot differ from each other in their nature, and there is no point in distinguishing the energy of the one from that of the other; one can either drop the term 'libido' altogether, or use it as meaning the same as psychic energy in general."[101]

Both the sexual and the ego instincts, now merged by Freud into the life instinct, sought pleasure and avoidance of pain. But the evidence of analysis and of "war dreams" of soldiers did not harmonize easily with this "pleasure principle." These considerations, combined with others like masochism which "are very hard to account for by the theory of the libido,"[102] led to the postulation of an innate tendency in all living things to reinstate a previous condition of existence even in opposition to pleasure. In *Beyond the Pleasure Principle* Freud formulated in these words a conception which was destined to attain dominant importance in his own mind, if not in those of some of his leading adherents:

> If it is true that once in an inconceivably remote past, and in an unimaginable way, life arose out of inanimate matter, then, in accordance with our hypothesis, an instinct must at that time have come into being, whose aim it was to abolish life once more and to re-establish the inorganic state of things. If in this instinct we recognize the impulse to self-destruction of our hypothesis, then we can regard that impulse as the manifestation of a *death instinct* which can never be absent in any vital process.[103]

Freud's new theory of instinct then presumes two main urges, one toward the preservation of the self and the race, called the life instinct; the other directed primarily against the self and called the death instinct. "The cooperation and opposition of these two forces produce the phenomena of life to which death puts an end."[104]

[100] *Collected Papers*, IV, p. 350.
[101] *New Introductory Lectures*, p. 141.
[102] *New Introductory Lectures*, p. 146.
[103] *New Introductory Lectures*, p. 146 f.
[104] *Ibid.*, p. 147.

The death instinct is directed in the first place against the self. Such a self-destructive tendency is opposed to the self-preservative instinct, so that under the influence of the latter the death instinct is deflected from the self toward the outside world. Once this has occurred, we may have aggressive sexual behavior or sadism, but we may also have—and this is the point—non-erotic aggression. Such aggression is in fact "the derivative and main representative of the death instinct."[105] This is the basis for a psychoanalytic explanation of war and other violent social phenomena.

Freud would seem to attribute war to the improvement of weapons. "I really believe," he says, "that gun-powder and fire-arms overthrew chivalry and the domination of the aristocracy. . . ."[106] Russian Tsarism succumbed to dynamite, and the World War was inevitable once a German Zeppelin showed it was capable of flying to London. But weapons do not fight wars by themselves. They require men to wield them. At this point the new abstract men, equipped with all the necessary "natural" qualities, step into the breach. For "men always place their newly won powers at the service of their aggressiveness, and use them against one another."[107] Thus all the horrors of imperialism, including war, can be referred without hesitation to the newly conceived abstract individuals. Freud has thus changed from one illusion, that war was no longer possible, to another illusion, that it can never be abolished because it is based on immutable human nature.

According to Freud, if society should succeed in suppressing our "innate" aggressiveness against other human beings, as it must certainly do if it is to survive, the hostility will be turned back against each individual, thereby increasing humanity's sense of guilt unbearably.

> If civilization [he says] is the inevitable course of development from the group of the family to the group of humanity as a whole, then an intensification of the sense of guilt, resulting from the innate conflict of ambivalence, from the eternal struggle between the love and the death trends, will be inextricably bound up with it until perhaps the sense of guilt

[105] *Civilization and Its Discontents*, p. 102.
[106] *New Introductory Lectures*, p. 242 f.
[107] *Ibid.*, p. 242.

will swell to a magnitude that individuals can hardly support.[108]

The alternative to this prospect, that of allowing the aggressive instincts free play, is equally dangerous. Aggressiveness must be suppressed, for "civilized society is perpetually menaced with disintegration through the primary hostility of men towards one another."[109] Freud does not believe that the Soviets have solved this dilemma. They are, he says, avoiding the sense of guilt by their implacable hostility to their bourgeoisie. But, he adds, "one only wonders with some concern how the Soviets will manage when they have exterminated their bourgeoisie entirely."[110] Freud's concern appears to be not wholly for the people of the Soviet Union, who, he believes, are threatened with an intolerable increase of the sense of guilt, but seems rather to reflect the propaganda of the German bourgeoisie to the effect that the Soviets are preparing to attack them.

Conceiving the death instinct as inexorable in its functioning, Freud cannot think of any way in which to divert it in order to prevent the destruction of civilization. His helplessness reflects the imperialist bourgeois necessity to resort to violence. There is no other solution for the imperialists. The instinct, therefore, to which Freud attributes this drive, must be assumed to be equally rigid.

Freud here makes the complete transition to vitalism. He has here postulated, in its most pristine idealistic form, an inborn immutable force, pushing its way in a definite predetermined direction and incapable of being transformed. It can only be suppressed and turned against the ego. It is an "innate, independent, instinctual disposition to aggression."[111] It is an entelechy of the most inflexible kind. It is precisely this definiteness, this rigidity which distinguishes it from his earlier conception of instinct.

Freud takes one further step down the path to mysticism previously trod by Jung. He assumes not only the life instinct and the death instinct, but also a "neutral" energy which is displaceable and "able to join forces either with an erotic or with a destructive impulse, differing qualitatively as they do. . . ." "Without assuming the existence of a displaceable energy of this kind," says Freud, "we can make

[108] *Civilization and Its Discontents*, p. 122.
[109] *Ibid.*, p. 86.
[110] *Ibid.*, p. 91.
[111] *Civilization and Its Discontents*, p. 102.

no headway. The only question is where it comes from, what it belongs to and what it signifies."[112] Some critics argue as to whether the life instinct is sexual or not, whether the death instinct is directed primarily toward the self or the external world, and whether the "neutral" energy is in fact neutral. But the essential criticism against these instincts is not that they do not have the particular qualities which Freud ascribes to them, but that they do not exist at all. The death instinct is an abstraction from the behavior of certain human beings under conditions of imperialist decay and war. This behavior cannot be lifted from its context, treated as an independent entity and pinned upon human beings as a sign of an immutable animal nature. There are no desires and urges characteristic of "man" under all conditions. The desires and urges of man change with the development of society.

Freud's evidence that there exist in certain human beings strong impulses to self-destruction, that there can be in living beings "an overthrow, psychologically very remarkable, of that instinct which constrains every living thing to cling to life,"[113] actually shows beyond question that the impulses of human beings are not theirs "by nature," but are bound up with and depend upon the conditions in which they act. Even the statement that human nature was urged by a desire to preserve itself and to reproduce its kind, can no longer be maintained. Such urges depend upon social conditions, and may or may not motivate human behavior. They may be overthrown and supplanted by opposite urges, or both may act together at one and the same time, depending upon the circumstances. With this demonstration, it becomes impossible to postulate any urges within the human being which are not contingent upon the social environment. The individual can no longer be separated from his social context.

Freud does not see that his recognition of the impulse of self-destruction destroys the validity of vitalistic urges. For him it only seems that he has added one more urge to the time-honored ones. If he understood the transient and conditional nature of his instincts, he would be forced to understand the transient and conditional nature of the social order in which they have their being. This he has been unable to do.

[112] *Civilization and Its Discontents*, p. 62.
[113] *Collected Papers*, IV, p. 156.

# *COMMUNICATIONS*

## NOTE ON MR. KAZAKÉVICH'S "THE END OF PLANT EXPANSION IN AMERICAN MANUFACTURING INDUSTRIES."

Mr. V. D. Kazakévich's article on "The End of Plant Expansion in American Manufacturing Industries," which appeared in the Spring issue of *Science and Society*, raises a number of questions.

With data from the Census of Manufactures on the size of plants measured by the number of wage earners employed, Mr. Kazakévich attempts to show that the growth of plants, especially of plants having more than 1,000 wage earners ("large" plants), came to an end around 1919. This demonstration is in support of his main thesis: that the technological base for the concentration of capital disappeared with the end of plant expansion, and that since that time concentration has occurred solely on the economic level —within the sphere of financial manipulation.

The critical questions to be raised relate mainly to the author's statistical methods and his working assumptions.

1. Despite the fact that the distribution of wage earners by plants afforded a substantial body of data with which to work and resulted in obtaining a relatively homogeneous picture over a period of years, these data are not an adequate measure of plant size. Changes in the physical size and capacity of plants may occur without effecting any corresponding changes in the size of their labor forces. This is due to the tendency of the ratio of capital to labor and the ratio of output to labor to increase. As a result of this tendency labor forces are decreased relative to the capital invested in plants or decreased both relatively and absolutely.

The number of employment opportunities provided by a plant is dependent, leaving aside the level of production, on the amount and type of physical capital that constitutes a plant and the manner in which this capital is utilized. To measure changes in plant size it would be necessary to have series of data on the amount of capital invested in individual plants in conjunction with the size of their capacities.

Increasing investment in plants and more effective utilization of capital, accompanied by increasing labor productivity and absolute and relative de-

crease in employment opportunities provided by individual plants, were an outstanding characteristic of the post-war period. Available evidence would seem to indicate that this development proceeded at a more rapid rate in the larger plants than in the smaller. This is especially important in connection with Mr. Kazakévich's main point: that "large" units underwent a decline relative to the smaller units. More rapid increases in the amount of capital represented in such plants relative to their labor forces leaves open the possibility that large plants have increased faster in size despite the apparent demonstration of an opposite tendency shown in the data presented by Mr. Kazakévich.

In view of these considerations, it is quite clear that the number of wage earners is not a yardstick for the measurement of changes in the size of plants and hence does not reveal activity on the technological level. It serves only to conceal any such changes that have occurred. The attempt to use this measure not only falls to the ground, but it is wholly misleading. Indeed, Mr. Kazakévich should have used the Census data for an analysis of "The End of Expansion in Plant Labor Force."

2. Even if it were true that changes in the number of wage earners reflect corresponding changes in the size of plants employing them, a trend opposite to the one found by Mr. Kazakévich with respect to "large" plants between 1919 and 1929 can be shown by making certain required adjustments in the census data for those years.

In 1919 the shipbuilding industry employed 387 thousand wage earners, 331 thousand or 85.5 per cent of whom were in establishments employing more than 1,000 wage earners. By 1929, however, this industry employed 55 thousand wage earners and only 18 thousand or 32.1 per cent of these were in "large" plants. The size of this industry in 1919 was due, quite obviously, to wartime expansion, and so also was the concentration of workers in "large" establishments.

In order to determine a true trend in the concentration of workers in "large" plants data on this industry should be eliminated from the computations for both 1919 and 1929. By doing this and by adjusting also for large establishments on which no data were reported in 1929, we find that all other establishments in the rest of the industries employing more than 1,000 wage earners accounted for 23.7 per cent of the total wage earners in 1919 and for 25 per cent in 1929.[1] Comparable figures found by Mr. Kazakevich showed a decrease from 26.4 to 24.4 per cent. This adjustment serves

[1] Where less than three establishments fell in any frequency in this and subsequent censuses, their data were grouped in the next lower or higher frequency, so that the operations of individual concerns would not be divulged. These cases occurred in

to question the desirability of using 1919 for purposes of such comparison with other years. What is more important, however, is that a more careful handling and consideration of the data should have deterred Mr. Kazakévich from stating such positive conclusions on this subject.

3. The primary data used by Mr. Kazakévich to prove that the growth of "large" plants has been arrested are percentage distributions of wage earners by size of plants. Aside from the question of the adequacy of these data, such over-all figures may conceal, rather than reveal, significant trends. Changes in the frequency distributions of wage earners among "large" plants and plants in the other size-groups may be decidedly influenced by such factors as the following:

(a) the changing importance of different industries with respect to the number of wage earners they represent (employment may be increasing rapidly in some industries and declining in others);

(b) the influence of declining and growing industries;

(c) divergent trends in productivity and capital utilization in separate industries;

(d) shifts in production between "large" and "small" size plants within each industry.

Instead of analyzing *these diverse changes* and their effects, Mr. Kazakévich's argument simply comes down to this: there are two mutually exclusive bases for the concentration of capital—the technological and the economic. Since large plants did not increase in relative importance, as shown by the crude over-all percentage distributions, the technological base for concentration had ceased to exist for manufacturing industries as a whole.

He draws such a generalization despite the fact that in presenting a table of frequency distributions of wage earners by size of plants in 77 "large" industries,[2] he finds that "the number of industries in which large plants grew in importance and the number of cases in which their importance diminished is about equal." He does not analyze these divergent movements and their significance but simply uses the data as additional evidence in support of his argument that "the tendency towards concentration of labor in large plants reached a peak immediately after the World War."

4. After pointing out that the size of an industry has no direct bearing

several industries in the frequency over 1,000 wage earners. Adjustment was made by imputing a minimum number of wage earners to the frequency, 1,001 wage earners where one plant was not accounted for and 2,002 wage earners where two plants were left out. These minima were in each case subtracted from the foregoing frequency.

[2] All industries given in the Census of Manufacturers which in any of the six census years from 1909 to 1929 had an average of more than 25,000 wage earners.

on the size of its plants, Mr. Kazakévich contends that the size of plants in any industry depends mainly on the processes of production that are involved. Technology, however, would appear to be only one factor, and perhaps no more important in determining the size of plant capitals than certain other factors. The extent of the market, the degree of monopoly control, and the variation in the concentration of capital in different industries must also be considered. If the chracter of technological processes were the principal determinant, moreover, it would seem that the size of plants in individual industries should tend to be uniform. But in most cases a wide variation in size is the rule.

5. The most serious shortcoming in Mr. Kazakévich's working assumptions is the way in which he has mechanically separated the economic and technological bases for concentration. Considerations in the economic sphere determine the conditions under which technological changes are introduced. Likewise, potentials in the sphere of technology influence greatly considerations on the economic level.

By concentration on the technological level, Mr. Kazakévich probably means the concentration of capital which results from larger profits realized by means of technological improvements. Concentrations on the economic level he defines as "further consolidation of larger shares of national wealth and income in fewer hands." Now, as both of these bases for concentration existed both before and after the war, it is difficult to see how Mr. Kazakévich can lay such great emphasis on the technological base in the pre-war period and equally great emphasis on the economic base in the post-war period. Before he can conclude whether one factor or the other was the more important in furthering the concentration movement in either period, he should offer a body of pertinent facts. Without these he is not in position to advise with respect to the period since the war, "that the entire problem of contemporary finance capitalism must . . . be dealt with on purely economic, and not on technological . . . grounds."

6. To his question, "What is the significance of these findings?" Mr. Kazakévich answers by stating that "technological expansion had . . . reached a point of saturation, and since the physical increase in the size of factories had reached a point of diminishing returns, the urge for further and greater profits has been increasingly redirecting the concentration movement into the sphere of finance." To this we must say that the data Mr. Kazakévich has presented provide no basis for any such conclusion. Moreover, to say that the concentration movement was "redirected into the sphere of finance" implies that the capitalists rediscovered a channel through which they could accumulate capital. In the light of historical fact, such a statement is completely absurd and is a result of the confusion over the relationship between

economics and technology. The conclusion regarding diminishing returns is not only without foundation in any data presented; but the concept, as used in this article, is certainly not Marxian.

Following the statement quoted in the above paragraph, Mr. Kazakévich says, "This point is not new; it was, in fact, given its most well rounded presentation by V. I. Lenin, as early as 1916." He then gives a quotation from Lenin. The quotation used is one in which Lenin called attention to the great importance of studying in detail the transformation of competitive economy into monopoly economy. This quotation, of course, in no way supports Mr. Kazakévich's findings and in its context is entirely out of place.

T. J. BLACK

## A REPLY by V. D. KAZAKÉVICH

My article in the Spring issue of *Science and Society* (Vol. II, No. 2, pp. 195-217) presented statistical tabulations, illustrating the point, accepted *a priori* by most investigators, that the physical size of plants or factories has a definite limit beyond which any increase becomes inexpedient. Over-concentration in one spot puts production too far away from either raw materials or markets, or possibly both. Technological processes have an optimum point beyond which efficiency and profitableness begin either to increase less rapidly or to decline. Moreover, a high degree of plant concentration brings with it high labor concentration and makes the influence of labor unions too powerful for the comfort of manufacturers.

Thus from the point of view of technology—the efficiency of the productive process; for reasons of business expediency—the proximity of sources of materials or markets; and particularly, for reasons of labor policy—the growing power of unions in centers of large labor concentrations—it becomes expedient for large concerns to spread out their plants. These reasons help to explain why large capitalists are often obliged to decentralize their plants in order to increase profits or to sustain them on the existing levels. Although there is nothing startlingly new in this contention, I believe it is important to illustrate it with statistical data. I have done this first because the contention is so ofter advanced and accepted only on *a priori* grounds, and secondly, because, on the other hand, in most texts of economics the problem is so presented as to give the impression that increased efficiency and profitableness of large scale production mean bigger machines, and larger factories. To demonstrate that this is not the case in the present stage of capitalist development in the United States I presented

statistical data, which covered one phase—and only one phase—of this large issue rather exhaustively.

Mr. Black objects to my using the number of wage earners employed as a measure of the size of plants. But as I point out in my article (p. 197-98) this criterion is used only in the absence of a better yardstick. Mr. Black suggests that the measurement of size "would have to include the amount of capital invested in individual plants in conjunction with the size of their capacities." In other words, he would like to see size measured in terms of value or dollars, and plant by plant.

The first serious obstacle to the procedure recommended is the absence of data on "capital invested in individual plants" and on "the size of their capacities." The second obstacle is the fact that such a course raises the problem of changes in the price level and the application of adequate deflators. One could deflate dollar figures when dealing with industrial groups for which price indices are available, but would meet with considerable difficulty in attempting to do the same for individual industries. My main reason for using the number of wage earners instead of value figures was that the error introduced by this method, although undoubtedly large, is still not as great as would have been the case had I based my investigation on value data expressed in dollars.

If a study could be made along the lines suggested by Mr. Black, it would be a very valuable one, but contrary to Mr. Black's assertions, would, I believe, only further substantiate my conclusions. However, the present state of statistical information defies such an investigation. Mr. Black's "available evidence" in this connection appears to fall in the class of the power charts for a hundred years back by industries, so loudly promised by the technocrats and afterwards never revealed.

Mr. Black shows, in criticism of my statistical method, that if one declining industry were eliminated from my group of industries my results would not have been the same. With this I certainly agree. In fact, if I were to take out two, three or all industries that could be classed as declining or stagnant, then the trend shown by my figures would be reversed. On the other hand, if I excluded industries that are still in the state of expansion, the tendency demonstrated by my figures would be accentuated. This to my mind, further substantiates my general conclusion and in no way invalidates it, as Mr. Black appears to think. To compare the trends existing in expanding, stagnant, and contracting industries, though an interesting problem, was not my objective.

I am also accused by Mr. Black of mechanically separating technology from economics. The answer to this is that I do not make any such sep-

aration. In dealing with a subject I proceed step by step, limiting myself at each stage to the particular matter under investigation. That, I believe, is the most fruitful procedure in research work. The synthesis should come at the end, as it did in my article, where, however, it incurred the displeasure of Mr. Black, for being too general. Mr. Black misunderstands my distinction between concentration on the technological level and what might be called "economic concentration." By concentration on the technological level, I meant the physical growth in the size of plants. In the period of industrial capitalism this was the predominant form that concentration took, while in the stage of monopoly capitalism, due to the fusion of industrial and finance capital, the predominant trend assumed the form of financial centralization of capital. Or, as I said, "The urge for greater and greater profits has been increasingly directing the concentration movement into the sphere of finance" (p. 216). Hence it is incorrect for Mr. Black to argue, as he seems to do, that since both trends existed before and after 1919, their relative strength must be the same after 1919 as before. Naturally in most industries, enormous technological changes took place, but for industry as a whole, the fundamental trend was toward financial concentration in order to obtain monopoly profits.

Finally, Mr. Black dislikes my use of the quotation from Lenin's *Imperialism, the Highest Stage of Capitalism.* I chose that particular sentence because Lenin happened to work with some census figures on which my article is based. While Lenin contrasted the figures for the census years 1904 and 1909, I covered the period from 1909 to 1929, and subjected the data to detailed statistical reworking. This was done to illustrate with a much broader set of figures the further development of one angle of the basic change in the nature of the capitalist system, first so forcefully brought out by Lenin. My facts bring up to date and further illustrate Lenin's contention that capitalism is rapidly being transformed into a parasitic monopoly stage of decline.

To conclude, it seems to me that the crux of the objections raised by Mr. Black is to be found in his preference for detailed studies of particular industries or fields. Many valuable studies of this kind are now being made, but to limit one's interest to them is, I think, a mistake. Ample data on particular industries or fields are useful but are that much more useful if applied to a study of the whole industrial picture. That is what I attempted to do with the most elaborate and inclusive general set of data so far available, namely, the volumes of the United States Census of Manufacturers. Although my article covered only one aspect of a vast and important subject it will, I hope, stimulate others to undertake research along similar lines. The very intensity of Mr. Black's broadside indicates that this may be the case.

# *BOOK REVIEWS*

*The Letters of Lincoln Steffens,* edited by Ella Winter and Granville Hicks. New York: Harcourt Brace and Co., 1938. $10.00. 2 vols.: pp. 552, 1072.

These volumes are an indispensable supplement to that *Autobiography* in which Lincoln Steffens drew so revealing a portrait of himself and his times. Much of the letters, indeed, are of a personal and intimate interest, rather than of public significance. They reveal a Steffens in full perspective, but they are a contribution less to the understanding of his age, than to those who knew and loved him for what he was. It is on the letters which deal with public events that the attention of most readers will be concentrated.

They are a portrait of a man whose capacity for sudden insight grew consistently with the years. In a serious sense, Steffens was no thinker. He had remarkable, though discontinuous, intuitions. Before anyone else, he grasped the inner secret of corruption in American city life; but, having defined the secret, he had no sense of the instrumentalities which could deal with its causes. He understood the difference between what the American system made of the public and private personalities of the great figures in American business; how the ruthless entrepreneur could be, outside his industrial empire, a tender father and a devoted husband. He catches, in all personal relations, the best elements in the men whom he encounters; and he has a remarkable flair for using that best for high ends. Not everyone, indeed, will agree with his judgments of men; and he often seems, as in the letters to E. A. Evans, for example, to attach extraordinary significance to second rate men who have nothing to commend them but a genius for high-sounding platitudes. He tends, also, to confound the novel with the significant just for its own sake as novel. He is, of course, a superb reporter with an eye for the arresting detail that gives point and pungency to whatever he writes. He is rarely a good judge of men. He too often identifies enthusiasm for a great cause with understanding of a great cause.

But the one outstanding quality in these letters is the outcome of his realization that systems shape men; that they have their own immanent

logic which conditions the behavior they produce by their operation. Once he had understood that fact, he became an important commentator because he was able to refrain from those foolish moral judgments which divide the world into the sheep and the goats. This enabled him to understand that the ability to transcend an environment is one of the rarest of human gifts; men become, for the most part, subdued to the medium in which they work. Perhaps, even, that understanding hindered, not less than it helped, his public effectiveness; for its result was to deprive him, in large degree, of that capacity for indignation which is an important factor in arousing the public to attention. It made him fasten his attention on what must occur within the framework of a system of institutions instead of considering how those institutions work. He became, thereby, the fascinated spectator of a drama, rather than an actor upon the scene.

But it enabled him—and this, I think, is his real significance—to avoid the elementary error of confounding the habitual with the necessary. It was this which enabled him to see through the miasma of prejudice which the vested interests erected about Mexico, to the perception of the new and vital forces which were moving to expression there. It was this, also, which gave him, from the outset, his remarkably sympathetic understanding of the Russian Revolution. The famous judgment, "I have seen the future and it works," is the fit outcome of all his long and hard toil to grasp the impact of processes upon men. What he understood in Russia was that a new framework of institutions produced a new set of habits, and thereby produced a new way of behavior to which men would adapt themselves. It is impossible to read without admiration the tireless patience with which he strove to make this understood by his fellow-countrymen. This is, without doubt, the most compelling part of the book. It illuminates profoundly not only Steffens at his best, but also the public opinion of the United States at a critical time. And these letters are the more fascinating because they reveal so admirably the kind of cross-currents in which a new idea becomes involved. They measure the pain with which experiment is regarded by those to whom it presents itself as outside the range of the expected; and they depict, with a mass of significant detail, how wide are the resistances upon which vested interests can call when they feel themselves compelled to attack. For the student of historical forces in motion the importance of these letters is very great. Perhaps it is even greater because Steffens approached the issue he sought to define from postulates more felt from within than deliberately defined to himself in historical terms.

With the private personality of Steffens as revealed here I am, of course, not concerned. But it is perhaps desirable to say a word about it as it is depicted in the letters. He was not, I think, a man of any definite convic-

tions or systematic thought. Eager, open-minded, tolerant, I suspect he was interested in the process of life rather than in the ends for which that process operates. This acted upon him in two ways. It made him eager to know people who had significance and power, less to understand for what purposes they used them, than simply to see *how* they were used. He then became fascinated by the spectacle itself, until the degree of his immersion in it largely paralyzed his faculty of judgment. He accepted so much of the evil they wrought as due to the "system" that he came to separate them from its activities and to misunderstand the degree to which men are active participants in history and thereby alter what it can be made to become. When he reports a situation, he is always the careful and accurate observer, warned, like the effective journalist he was, to stand outside the events he describes. But description did not lead him to conclusions of any directive kind because he had, no doubt unconsciously, suppressed in himself the will to philosophize. By the end, therefore, he has become a detached and kindly observer, eager that people shall welcome novelty, always receptive to experience, tolerant, genial, able to see that change is a complicated thing. But he has no coherent dynamic of change. He cannot see either the next step or the great causative factors that work in the scheme of things. He has attractive incantations to put forward; in any profound way, he is limited to these incantations. But these pages make me suspect that when he uttered his incantations, he believed that he was putting forward remedies. He never was able to make his observation rise to that level upon which it becomes not merely an invitation to experiment but a philosophy of what, and for what, the experiment shall be.

HAROLD J. LASKI

*Fearfully and Wonderfully Made,* by Renée von Eulenburg-Wiener. New York: The Macmillan Company, 1938. $3.50. Pp. xii, 472.

This book is unique in its range and in the variety of its aspects. In it one finds an outline of human embryology; discussions which involve general and comparative physiology; accounts of gross and microscopic anatomical structure, notably that of the nervous system and the more complex receptors; elementary descriptions of bodily processes such as digestion, blood circulation, respiration and metabolism; chapters on internal secretions and vitamins; graphic formulae for the chemical composition of foodstuffs and metabolic products, and recurrent emphasis on the bearings of modern theoretical physics and chemistry on the interpretation of

biological phenomena. Although the author has considerately aided the uninstructed reader by frequent explanatory footnotes, anyone not equipped with a preparatory knowledge of physics, chemistry and biology will find that the exposition in many places is difficult to follow.

The style is, on the whole, clear, and direct. Little sketches in the history of science, occasional approbative comments on the importance of philosophy to the scientific investigator, and excursions into hypothetical biology break and enliven the formal record. A few pages of "bibliography" are printed at the end of the book, but in the text the investigators and their publications are rarely mentioned. The author consequently assumes full responsibility for the statements which she publishes.

Unfortunately the book is marred by many errors and by highly questionable positive declarations for which no evidence is cited. These are so numerous that relatively few instances can be mentioned here. The action of ptyalin is not due to gastric acidity (p. 42); cobalt is not the main inorganic constituent of crustacean blood (p. 72); the shock level of arterial pressure is not so low as 40 millimeters of mercury (p. 164); the liver is not well supplied with nerves (p. 198); reflexes do not disappear when the liver is absent (p. 204); the Steinach operation is not a ligation of blood vessels (p. 257); the gonads and "all other endocrines" are not under nervous control (p. 258); the energy for propagation of the nerve impulse is not derived from the cell body of the neuron (p. 319); adrenin does not stimulate sympathetic neurons (p. 324); the cranial parasympathetic system does not promote heat loss from the body (p. 329); hunger is not caused by lack of "normal" distention (p. 331); muscles are not levers (p. 334); the optic nerve does not enter the eyeball on the temporal side of the fovea and the fovea is not only not rich in rods but actually has none (p. 404). On page 408 the author states that a retinal image "is not essential to the perception of the object"; on the next page she declares "any object to be distinctly seen must be brought into focus upon the retina"!

There would be considerable satisfaction in knowing the evidence that 60 per cent of the simple sugar present in the duodenum is absorbed there (p. 44), that the intestinal wall secretes fat (p. 52), that the large intestine is the region of greatest water resorption (p. 68), that the bladder is the site of oxidation of aceto-acetic acid (p. 150), that the adrenocortical hormone stimulates secretion of adrenin and that adrenin is necessary for preserving normal arterial blood pressure (p. 250), that the oxidation of glucose occurs mainly in the brain stem (p. 278), that stimulation of abdominal parasympathetic fibers leads to diuresis (p. 317), that there is a "cooling center" in the medulla and spinal cord (p. 356), that words spoken to a child develop neuroblasts into functioning neurons (p. 393),

that a trace of past impressions is left in cell nuclei (p. 437), that carrier pigeons are disoriented when near "an antennae" (*sic*) of an active radio station (p. 440), and that the most significant researches in bio-electric currents (intensively studied for many decades by foremost physiologists, one of them a Nobel laureate for his achievements in the field) owe their origin to a theory published in 1935 (p. 444).

The reader wonders why heat production, oxygen intake and carbon-dioxide output during the passage of a nerve impulse "speak against a chemical action" in that process (p. 323). And why man has vocal cords because he has become omnivorous and has given up his arboreal habitat (p. 387). And why the author reports that mice sing in two octaves a song comparable to that of the lark—a song supposedly caused by a parasite in the liver (p. 392). And just what she means by the "cosmic mind" (p. 438).

The point should be emphasized that the erroneous statements and unfounded opinions to which attention is called in the three foregoing paragraphs are only samples.

The purpose of the author, as announced in the Introduction, is "to present the known facts of the human organism and its functions and to relate man to the universe by considering the phenomena of life on the basis of the energy concepts of modern physics." Would any physicist, however, agree that the definition of strain is "the force necessary to change the form" of an object (p. 336)? And in a strict physical sense can anyone admit that memory "must be considered a directive force" (p. 436)? The author has, indeed, engaged in entertaining and to some degree in stimulating speculation as to a possible freshening of biology by concepts of theoretical physics. In the opinion of the reviewer, however, there is meagre promise for progress in solving biological problems or for acquisition of sound biological knowledge in projecting hypotheses which cannot be subjected to experimental test. In making this judgment he recognizes that he is running the risk of being censured by the author who has expressed her belief that "the intolerance of the ecclesiastical rulers of the Middle Ages finds its counterpart in the scientific dogmatism of today which condemns all philosophic speculation."

WALTER B. CANNON

*Problems of the Pacific,* 1936, by W. L. Holland and Kate L. Mitchell. University of Chicago Press, 1938. $5.00. Pp. 470.

Since its first gathering at Honolulu in 1925, the Institute of Pacific Relations has steadily expanded its research program, publications and gen-

eral influence. Within little more than a decade, it has become the prime source of research activity and authoritative information on Pacific affairs. Comment on this one-volume report of the Yosemite Conference, held by the Institute in August 1936, must take into account the scope of the task faced by its authors. The conference agenda and documentation—this latter consisting of some 70 items, many of which were full-sized books—had been under preparation for three years. At Yosemite itself there were two weeks of intensive round-table discussion, while nearly fifty addresses were delivered. With participation by representatives of eleven national councils, including China, Japan and the Soviet Union, the conference was uniquely comprehensive, and at the same time the problem of summarizing its proceedings for that very reason rendered much more delicate. It is a tribute to the authors that they have conveyed an adequate impression of Yosemite, both as to background material and the round tables, and have not materially tempered the boldness and freedom evinced in the discussions.

They have divided their space almost evenly between the round-table discussion and the texts of six of the more important documents, following the order set by the agenda. Four countries—the United States, Japan, the U.S.S.R., and China—were placed on the dissecting table at Yosemite. In each case the delegates probed into domestic pressures and policies before analyzing the international implications of the particular country's impact on the Pacific area. For the United States, this procedure involved consideration of such items as monetary (devaluation and silver purchase) policy and the Hull trade program, and their diverse effects on China, Canada, and Japan. Considerable time was devoted to a discussion of Japanese-American trade competition, and this subject is also given detailed treatment by W. W. Lockwood, Jr., in Document I. It was recognized that hostility in this regard was aggravated by Japan's aggressive political policies in the Far East. In the light of current developments, the following sentence is worthy of note: "There is strong evidence to indicate that Japan will attempt to build an economic bloc in which the natural resources of China will be exploited for the benefit of Japanese industry and the Chinese tariff will be regulated to the advantage of Japanese export, thus preventing the Chinese people from achieving an industrial development designed to meet their internal needs and leaving them in the instability of a colonial economy with little likelihood that the purchasing power and standard of living of the people would be raised" (p. 28).

In the round table dealing with Japan, discussion centered mainly on the issue of Japanese trade expansion and allied problems. The com-

position, extent and direction of Japan's expanding trade, internal stimuli, population growth, living standards, wages and hours, increasing foreign barriers—all these are suggested and elaborated by means of summarized discussions or use of data presented in various papers. Document II, by a Japanese member, analyzes factors in Japan's recent industrial development. Political issues were somewhat subordinated to the purposes of this discussion, but searching questions were nevertheless raised as to the course of Japanese policy in China. Sharp differences also emerged when a Japanese member suggested that Japan's policies toward China and the Soviet Union necessarily differed from those affecting Western powers. The implication that force might be more necessary in the two former cases was stiffly challenged, particularly by Chinese and Soviet delegates (p. 95-99).

The third round table, devoted to the U.S.S.R., was especially notable, since it marked the first participation by Soviet delegates in an Institute conference. Preliminary discussion revolved about certain of the basic factors of Soviet society: its underlying socialist principles, its economic organization, and the results of its planned economy. Soviet foreign policy, first in its broad implications and application and next in specific relation to China, Outer Mongolia and Japan, was then given detailed consideration. Document III comprises a lengthy and valuable survey of the resources and economic development of the Soviet Far East.

In the round table on China, the aims and achievements of the Nanking government's reconstruction program received main emphasis. Discussion of the international implications of this program necessarily centered on the attitude and policies of Japan. The delegates were largely prepared to admit certain Japanese grievances and difficulties; on the other hand, there was general sympathy for the following statement by a Chinese delegate: "From the United States we get the training of the Chinese personnel; from the League of Nations, the technical advice of experts; from Great Britain, an important portion of the money; from Japan, all the obstruction" (p. 173). Issues raised by the Chinese Communist movement, and the effort then being made by the Communist leaders to achieve a united front with the Kuomintang, were also considered. Document IV, presented by a Japanese member, deals with this movement, and Document V with China's reconstruction program.

Following these detailed analyses of specific countries and issues, an effort was made to look at the problems of the Pacific area as a whole. The concluding round table considered "the changing balance of political forces in the Pacific and the possibilities of peaceful adjustment." In many respects, this was the most important topic of the whole confer-

ence. Here disagreement was also most clearly evident. A majority of the delegates supported the need for an effective system of collective security, possibly featured by a regional pact of the Pacific powers. The Japanese delegation, however, consistently favored bilateral settlement of outstanding issues. An essential deadlock was thereby reached. In the Japanese demand for a "revision of the *status quo*," without which Japan would not enter a collective system, the Chinese members saw "a clear indication that Japan's ultimate objective was the complete economic and political domination of China" (p. 196). Events since 1936 have only served to support this Chinese contention. Under such circumstances, discussion of "peaceful change," or economic readjustments in Japan's favor, are robbed of validity and necessarily end in a blind alley.

Even after the lapse of two years, there is no single volume which affords such a complete and illuminating survey of Far Eastern issues as this report on the Yosemite Conference. It contains a mass of factual data, concrete expositions of the various national viewpoints, and a carefully integrated analysis of the diverse problems of the Pacific. The authors have also managed to invest their summaries of the round table discussions with a readability and interest which are seldom achieved in this type of exposition.

T. A. BISSON

*The Seven Soviet Arts,* by Kurt London. New Haven: Yale University Press. $4.00. Pp. xv, 379.

Kurt London's book is concerned with the status of the artist in the Soviet Union, the state of the Soviet arts and the relation of the Government and the people to both. Singly or combined all these are indissolubly connected with the profound transformation resulting from the Revolution. Nevertheless, in relating how the new society promotes the welfare of the artist and how, on the other hand, the new reality nourishes the artist's creative practice, the author is unreservedly enthusiastic about the first but highly dubious about the second.

Mr. London begins with the Central Art Committee, its branches and related agencies which control production and distribution in the several arts over the entire area of the U.S.S.R. The successful operation of these agencies is ensured by the constitutional guarantees of universal employment and education in all the arts and all the schools and of absolute equality in every branch of cultural life, irrespective of race. The administrations of the Fine Arts, Music, the Theatre and other arts overlap at

some points but in general the department of each art is organized on specific lines best suited to its own functioning. Dramatic repertoire, orchestral programs, appointment of conductors, routing of traveling exhibitions, erection of museums, assignments of commissions to artists, organization of amateur choruses and countless other matters are decided upon periodically and jointly by the central body and the local branches immediately involved.

Cooperating with these administrative agencies are the creative organizations, such as the Association of Architects, the Association of Composers, the Association of Writers. The programs for their own membership as well as for workers' circles, collective farms, Red Army units, and children's groups are as comprehensive as those of the Central Art Committee. One of the most fruitful of their activities consists in devising programs and methods employed in the higher art institutions. Among those described by Mr. London, the Film Academy, the Academy of Music and the Art Academy are especially noteworthy.

Mr. London devotes a special section to Children and the Arts which tells a story truly breath-taking. To begin with, the children are placed in "hygienically perfect conditions." Subtly and with infinite care their senses are cultivated and made receptive to the arts. Every sign of talent is especially fostered and encouraged. Studios, materials, exhibition rooms, sport and rest camps, theatres—the best of these are made available for Soviet children. Two unique institutions, the Central House for the Artistic Training of Children and the Palace of the Pioneer, cater exclusively to the needs, pleasures and education of the young. "The growing generation of Soviet youth, the luckiest in the world, is the proper soil from which should flower in the next half-century the most individual minds of the future."

The chapters which describe the organizational and administrative machinery form the most valuable and informative part of the book. The other chapters—constituting indeed the bulk of the book—deal with the body of post-revolutionary art, with the character and achievement of the painter, writer, musician. In this case, however, where knowledge beyond the immediately observable and verifiable is requisite, the author's contribution is far less adequate and even—to use his own favorite term—a little "dilettantish." In the chapter on the Fine Arts (which is typical), no sign of a systematic survey is discernible; not even a brief indication of the trends and groupings so richly recorded in numberless manifestoes. It is furthermore impossible to discover why some names have been included while others of equal prominence have been left out. One gets the impression that the author visited one or two exhibitions and simply

set down what he saw, assisted perhaps by his "expert companion."

The chapter on the Theatre is better because some account is taken of its mobility, growth, stylistic and ideologic battles. But by the failure to give due consideration to the contribution of the national minorities as exemplified in such theatres as the Jewish, the Gypsy, the Georgian, and the Tartar, the author misses what is one of the singular creations of the Revolution and one of the distinguishing characteristics of the Soviet theatre. The chapters discussing the other arts are approximately on the same level, with perhaps architecture somewhere near the bottom and music near the top.

Scattered through the length of the book are many pages of interpretation which for theoretic innocence are hard to improve upon. Mr. London obviously knows that the Revolution is not something congealed and static, but rather a process and a growth. Yet he writes as if he did not; and he ignores completely the organic unity into which social, economic, cultural values are fused. "It is a fact that the new revolutionary political ideas are faced with reactionary stylistic principles in art," he says. Mr. London nowhere defines "revolutionary" or "reactionary," but we may infer his meaning from his persistent championship of the Expressionists as "the true revolutionaries in art." That the Soviet artists and the Expressionists have lived in different social and cultural milieus, that they had to seek different solutions to their problems in art as in life are considerations which fail to perturb Mr. London. He does not even seem to be aware that the Soviet artists have, as a matter of historic fact, tested all the "modern" European schools and added quite a crop of their own isms. Surely Mr. London knows that outside of Soviet Russia internationally famous artists like C. Nevinson, Max Weber, George Grosz and countless others have abandoned Futurism, Cubism, and Dadaism, and turned to a representational, realist and even propagandist art. How much more logical for Soviet artists, eager to communicate their new experience, to go through a similar evolution! No *"ukase"* is required to accomplish that.

What distresses Mr. London particularly is the controversy over formalism versus socialist realism. Determined to set the matter straight, he assumes the garb of a pedagogue and proceeds to lecture the Soviet artists and critics with statements such as: "Art is dependent on form . . . It is only form which makes a work of art . . . ," and so on for pages. Yes, they know all about that in the Soviet Union, but they don't believe it. For twenty years an endless stream of books, articles, manifestoes have insisted that formal excellence is indispensable in a work of art. (Does any artist anywhere deny it?) All they repudiate is formalistic exercise for

its own sake or for the sake of a few initiates. The main thread running through Soviet critical literature and actuating Soviet artists is that form and content are two opposites composing an inseparable unity whose source is in the encompassing social reality.

As for Socialist realism, that is not due, as Mr. London asserts, to any "command," "*ukase*" or "knout" (wielded, Mr. London seems to hint darkly, by the hand of Stalin himself), but is merely the latest stage in a long cultural development. Moreover, it is by no means universally followed. As Mr. London himself testifies: "Landscapes, still-lifes, interiors . . . are still permissible . . . " In fact he "discovered relatively few pictures of pronounced revolutionary tenor." More still: Petrov-Vodkin, whose pictures are "pure formalism," walks the streets scott free and is even highly regarded and successful. Where is the singing "to the tune called by Stalin"? No, definitely the "knout" of socialist realism is Mr. London's own unoriginal invention.

Mr. London, however, is guilty of more than errors of judgment and fact. Outraged in his innermost "Western" feelings when some Russian artists speak harshly of their colleagues, he himself thinks nothing of hurling vituperation, innuendo and falsehood at the Soviet State—a State which according to Mr. London's own testimony is bending every effort to create a better world, to make culture democratic, to give dignity to art.

*The Seven Soviet Arts* reads like the work of two collaborators writing at cross purposes. One trusts the evidence of his eyes and professes admiration for the monumental achievements of the Soviet Union; the other prefers to use a leaf borrowed from its enemies. The result is a far weaker book than might well have been written, had the point of view been more carefully and (let us add) more honestly unified.

LOUIS LOZOWICK

*"Eagle Forgotten": The Life of John Peter Altgelt,* by Harry Barnard. Indianapolis: The Bobbs-Merrill Company, 1938. $4.00. Pp. 496.

Three things give national significance to the life of John Peter Altgelt, governor of Illinois between 1893 and 1897. One was his pardoning of the three convicted anarchists in the Haymarket case; the second was his defiance of President Cleveland in the Pullman strike; the third was his leadership in the Democratic Party in 1896, when he drafted its "radical" platform. Obviously such a man is worth a serious biography.

Mr. Barnard has done the work well. He has produced in lucid, solid, closely knit, restrained and unadorned prose, a careful and well-rounded study, notable for its judicious tone, its respect for evidence, and its breadth of research. The story lags until Altgelt takes up the Haymarket case, but from that point until the end of the election of 1896, the narrative moves swiftly, with the absorbing interest of a great dramatic event. And then it appears that the first two hundred rather prosaic pages are necessary in order to explain the central figure in a series of conflicts of unusual bitterness and intensity.

What manner of man was Altgelt? Mr. Barnard's portrait is complete and convincing. We see at the outset an immigrant lad, born into an environment of hard work and poverty, ungainly and ugly, an early victim of the "Know-Nothing" brand of scorn and hatred for the foreign born. As a youth he betrayed a resolute spirit, a strong will directed toward personal success and advancement. His brief service in the Civil War exposed him to a severe attack of fever, which was to revisit him periodically, impairing the strength of a slight body, and thus intensifying his reliance upon will power. Dominated by the success and profit motives, and by a desire for prestige, popularity and power, he roughed it as a farm hand in Kansas, and taught school and studied law in Missouri before he moved to Chicago, where he slowly acquired wealth and position as lawyer, land speculator, builder of office buildings, politician, judge, governor and leader of the Democratic Party.

His early career left definite marks. Along with his respect for property and success he retained a sympathy for the underdog and a hatred of alien-baiting. Having inclinations toward, and associates in, both camps in the war between capital and labor, he attempted to take a middle ground position—to reconcile conflicting interests. His impulse for accomplishing this was his faith in democracy; in a government above and beyond classes which would give reality to the ideals of truth, justice and mercy through a humane and impartial enforcement of equitable laws.

His early refusal to identify himself solely with either capital or labor exhibits a strain of individualism. In the Haymarket pardons he acted alone, spurning the aid and support of the thousands of devoted people who had labored for years in behalf of the condemned men. In the Pullman strike, certainly one element in his attack on Cleveland was the feeling that he, as governor of Illinois, had been personally slighted by the president. He thought of himself as above classes, as an embodiment of law and justice in an abstract sense. In the Pullman affair, his concern was not to aid labor but to confine government to an impartial rôle

—to prevent the use of the courts and the troops for the benefit of either side. Mr. Barnard observes that Cleveland "could have boasted that the only serious encounter between the soldiers and the rioters was one that occurred on July seventh, an affair in which seven rioters were shot to death—not by the Federal troops, but by militia whose commander-in-chief was the 'anarchist Altgelt.' But, as Brand Whitlock dryly observed, 'perhaps Governor Altgelt was willing to forego any "credit" for any act, which, however necessary to the preservation of order, demanded so many lives'" (p. 311).

After 1894, Altgelt abandoned his aloofness, identified himself unequivocably with the depressed classes in revolt against Big Business, and became an ardent partisan. Mr. Barnard's pages suggest a leading explanation of this shift. In his war against injustice, brutality, corruption and illegality, Altgelt received little sympathy from the representatives of Big Business. Finding these men to be enemies of the democratic ideal, he attacked them with extraordinary force, thereby provoking their hatred and unmeasured abuse. In the personal feud that ensued, he needed allies, and that in turn forced him to depend upon other opponents of Big Business, who loved Altgelt, it seems, primarily for the enemies that he made. Hence the strange alliance that he, a Chicago land speculator, eventually formed with Henry George.

Was it Altgelt's political ambition which drove him to identify himself with the depressed classes? Mr. Barnard's answer (which seems convincing) is No. Was Altgelt, as a small capitalist, thwarted and snubbed by the established élite, and thus driven into opposition? This question is answered only by implication. Altgelt's sympathy for the underdog, his regard for justice and individual rights, his conclusion that the big capitalists rather than the depressed classes were the enemies of his ideal, and the attacks made upon him by wealth and respectability—such were the factors which transformed Altgelt, the aloof individualist, into a hard-hitting partisan and organizer of revolt.

Mr. Barnard's treatment of Altgelt is highly sympathetic. Only in small matters was Altgelt's course objectionable; in the great crises of his career he rose to the heights. *Ad astra per aspera.* It may be remarked that Mr. Barnard sees things pretty much as Altgelt saw them. Mr. Barnard deprecates the extremes in the labor conflict. He conceives of government as an impartial agency that will deal out even-handed justice to all sides by means of compulsory arbitration of labor disputes. As a believer in truth, law, order and humane methods, Mr. Barnard has been obviously incensed by Altgelt's enemies who employed violence, fraud and distortion to set at naught the ideal of an impartial govern-

ment which serves the ends of abstract justice. Mr. Barnard's distaste for reactionary capitalism has evidently provoked a sympathy for its victims and for Altgelt and his fight in their behalf. Mr. Barnard's position seems to boil down to this: the underlying relationships of labor and capital are sound, the workers should not resort to violence, and the capitalists should not use the machinery of government to accomplish unworthy ends by illegal means.

CURTIS NETTELS

*What Are We To Do?* by John Strachey. New York: Random House, 1938. $3.00. Pp. viii, 339.

At the outset of his book Strachey modestly disclaims any attempt to emulate Lenin, whose famous 1902 essay[1] gave the title to Strachey's book. The situation today, he finds, is similar to the one in Russia in 1902, and calls for a similar remedy.

The jacket blurb describes the book as a "History of the British and American Labor Movements." Actually it is not that, and does not purport to be. It offers nothing like a systematic treatment of the history of either the trade-union or the political labor movement in either country. The first part of the book does however furnish a very illuminating running comment on the policies followed by labor in both countries.

The entrance of labor into politics in a separate party is, in Strachey's view, inevitable:

> The growth of the unions will sooner or later bring them into conflict with the employers, and with the political and legal representatives of the employers. Out of this conflict, out of its attacks and counterattacks, political activity on the part of the unions inevitably arises. At first this activity takes the form of putting pressure upon the existing political organizations of the capitalists; at length it takes the form of the creation of an independent political party controlled and financed by the workers' organization (p. 43).

Not only is this entrance into politics inevitable, it is necessary to the continued life of the unions themselves. Thus Strachey finds a common tendency for all labor movements to go through three stages, nor does he advocate leaving out any of them: "Trade unions influencing existing political parties; trade unions forming a political party of their own; that party becoming a socialist party" (p. 58, note). The tragedy of the British movement was, in his view, its acceptance of Fabianism instead of scientific socialism. For Fabianism, as he shows most devastatingly, al-

[1] Usually the title is translated as *What Is To Be Done?*. See V. I. Lenin, *Collected Works*, IV (New York, 1929), p. 89-258.

ways shrinks from class struggle; and "a labor movement which has ceased to fight has ceased to live" (p. 196).

What makes the present a time of crisis and decision is that, first, the avenues of escape from the wage-earning class have been closing one by one, so that the wage-earners individually as also collectively have no choice but to stand and fight; and, second, capitalism has passed out of the stage of expansion when it was able to grant certain favors to the union movement and to labor generally; it can maintain its profits only by beating down the workers and destroying their organizations. At present it becomes more obvious than ever before that scientific socialism is the only possible working-class philosophy. Engagingly Strachey proceeds in Part II to sketch the form of organization which a socialist party should adopt. It is the same which Lenin advocated in 1902. Part III outlines the immediate program.

Strachey is at his best when he raises his hands in bewilderment at the blindness of reformists and Fabians. His distinction between the two kinds of reforms—those which really advance the cause of the workers on the one hand, and those which merely seek to make capitalism profitable on the other—is a model of lucid analysis. Truly this man who speaks the language of every day has deserved his large and increasing group of followers, both in the middle class and out of it.

Strachey blames the British labor leaders (MacDonald, Thomas and the rest) for the failure of British labor to make aggressive advances during the nineteen-twenties—"the golden opportunity," which may or may not return, for the achievement of substantial social advance with the minimum of social dislocation" (p. 137). He even goes so far as to declare: "The mighty and terrible crises which now periodically rend the capitalist world ought to be periods of supreme opportunity for labor movements" (p. 203). As an example of what could have been done, he points to the experience of 1920, when the threat of a general strike by British labor stopped the British invasion of Russia and saved the Russian Revolution.

Now I submit that this manner of argumentation is a trifle unreal. The reviewer was in England during the summer of 1920 and again in 1926-27, and knows that the psychology of the labor movement was entirely different in the two periods. The year 1920 marked the culmination of a long period of rapidly rising prices and intense business activity. Men and women were pouring into the unions. Strike was in the air. Labor was on the move. In these circumstances labor might well have pressed on to new conquests.

Very different was the psychology of labor after a long period of rela-

tive depression and slowly falling prices. The goverment was quite prepared to have the unions call a general strike in 1926. It is true that the general strike was held in leash and finally betrayed by the conservative leaders. The point is that the British workers, in the mood in which they found themselves in 1920, would hardly have tolerated such a betrayal. As for the period of crisis and depression, it seems according to the record to be characteristically a period of defense for the labor movement. To imagine labor riding the whirlwind and directing the storm, we must at least imagine that labor is riding high. It is simply not fair to assume the psychology of 1920 in (say) 1932. This is not to say that labor should make no struggle when conditions are unpropitious; on the contrary. But tacticians do recognize a difference between offensive and defensive warfare.

The theory of socialist uniformity was attacked by Perlman in 1927, in his book, *A Theory of the Labor Movement,* which is now nearly forgotten. Strachey's brilliant reformulation has brought the theory back in the center of the stage. One might wish, however, that Strachey would now integrate his own earlier work on business cycles, *The Nature of Capitalist Crisis,* with his general theory of social change. We need an analysis of the interrelation between recurring and deepening crises on the one hand, and the trade union and political development of labor on the other. Ideas, including the ideas of labor leaders, do not grow in a vacuum; they need to be studied in relation to the setting which produced them. Ideas are a social force; but their application in any particular situation is a matter requiring supreme judgment as well as supreme audacity.

HORACE B. DAVIS

*Forty Acres and Steel Mules,* by Herman Clarence Nixon. University of North Carolina Press, 1938. $2.50. Pp. 98.

*Research Memorandum on Rural Life in the Depression,* by Dwight Sanderson. Social Science Research Council, 1938. $1.00. Pp. 169.

*Forty Acres and Steel Mules* is as refreshing as its title. Dr. Nixon is a college professor and a Southerner who recognizes class lines and their economic basis and knows that the time is ripe for constructive action. Very skillfully he summarizes the most important facts in the mass of material that has been assembled about poverty in the cotton country. Brought up on an Alabama plantation, he knows his South and respects

the croppers and poor farmers. Not with his approval are programs drafted in behalf of the planter class and with provision only for a highly selected few among the million and a half tenants of the South.

Style and makeup—with excellent photographs—carry appeal to a wide public that shies away from pages buttressed with footnotes and appendices. But it will be unfortunate if specialists and students toss Dr. Nixon's book aside as too popular for them. It has qualities which many lovers of hard facts must envy. Most of us fail to achieve the thorough mastery of a subject which gives perspective and flexibility of style. And in relation to the knotty problem of farm poverty in the South, where that poverty is most extreme, such perspective is essential to genuine understanding. No such well-rounded and well-integrated picture of southern farm problems has yet appeared.

That more drastic action is urgently needed is common knowledge. Dr. Nixon reviews measures already taken by the Federal Government. He recognises in each of them a first step which needs to be followed quickly by second, third and later steps. On tenancy, for example, the Farm Security Act is so meager and so cautious in its provisions that it can barely keep pace with the current yearly increase in farm tenants. Resettlement measures for transferring families from exhausted land to good land have moved slowly with funds far too small in relation to the seriousness of the problem,—too small especially since the growth of city unemployment has set up what Dr. Nixon calls a "back-to-poor-land" movement. Also they involve for the settlers "future payments that are too much for them." On farm credit, the Federal Land Banks and the newer provisions for cooperative credit groups can serve only the upper ranks. The terms under which they operate exclude automatically the poorest farmers.

Federal crop control under the original A.A.A. (1933-35) "had to favor the landlords, who had political power, if it was to be adopted and put into practice." The program has been improved "and has contributed to a more scientific land-crop policy." "The propertyless and disfranchised farmers have not had adequate protection in the making and execution of the program, but be it said that these farmers have seldom or never had adequate protection." And Dr. Nixon points out that the program has treated all cotton regions alike. "More attention should be given to aiding certain areas to grow more cotton and aiding other areas to grow less cotton."

Most important is Dr. Nixon's clear recognition that today ownership of a patch of good land is not by itself enough to solve the problem of the poor farmer. He needs equipment, and he needs to participate in a

scale of operation which provides the wherewithal for efficient and scientific farming. The tractor, and the cotton-picker when it is really perfected, must be used for the benefit of the poorer farmers. If this is to be achieved without again having them lose their independence some form of cooperative farming must be introduced. "The community needs of the South require that the timid experiments of the government should yield to a bold policy of farm village development." Such a policy must include "effective provisions and guarantees for the inclusion of Negroes in the village renaissance."

What shall be raised on these cooperative farms, since there is already too much cotton? And what will become of the wage laborers, sharecroppers and poor farmers displaced from the cotton fields by the advance of mechanization? Dr. Nixon paints a hopeful picture of other types of farming: dairy, poultry, vegetables, fruit, cattle, which could be developed and should be developed to provide an adequate diet for the undernourished masses of the South. At the same time he is aware of the widespread poverty in industrial as well as agricultural regions. He condemns the sweat-shop industries and the low southern wage scale which he relates correctly to the poverty and congestion of population on southern farms. He looks to organization of labor unions to raise the scale of pay and increase the demand of southern workers for a more abundant diet. But he treats too casually the interrelation of this problem and the poverty of the farmers. He is completely silent on the basic question of mass unemployment, which has reduced to emergency diets several million families in both the North and the South.

Meantime, increase in food crops has some value for the farmers who raise them. Supplementing these with carpentry and plumbing and other crafts may help to improve some of the miserable shacks. But Dr. Nixon seems a little too hopeful of subsistence farming; a little too sketchy about its limitations.

The book lacks a clear statement as to exactly how the South (and the North) will achieve the social planning and vigorous social action which Dr. Nixon sets forth as the next steps toward solution of the problem. He finds the poor farmers "inarticulate" and fears demagogy without defining exactly what he has in mind. He seems to appeal to the general good will and intelligence of "the South" rather than to any hope of action by the croppers and other poor farmers. He writes evidently for the growing body of Southern liberals and takes little account of the efforts at organization made by the poor farmers themselves, although these can become the most decisive force against the domination by planters and landlords.

At the other pole from *Forty Acres and Steel Mules* is the approach of the *Research Memorandum on Rural Life in the Depression.* A sociologist, paying lip service to the economic background of farm life, Dwight Sanderson indicates the points on which current factual material is available and the points on which further study might be valuable. No action is indicated. Farmers are "better" and "poor," and that's that. The volume is useful chiefly for its compilation of titles on various aspects of the farm problem.

ANNA ROCHESTER

*The Intelligent Individual and Society,* by P. W. Bridgman. New York: Macmillan, 1938. $2.50. Pp. vi, 305.

Professor Bridgman is here attempting to employ in the sphere of social life and human relations an intellectual tool the character of which he has explained in relation to the physical sciences. He applies it courageously but not persistently enough. Hence his stopping-places are frequently half-truths reflecting ingrained attitudes rather than thorough analysis. The intelligent reader would be happy indeed if the intelligent individual (as author) took as great pains in using his tools as in sharpening them.

Professor Bridgman's approach is the operational method which he analyzed in his earlier book, *The Logic of Modern Physics.* According to this method the meaning of a concept is the set of operations which are performed in applying the concept. For example, one may define the length of an object in terms of certain operations performed with a meter stick or in terms of the optical operations of a surveyor with a theodolite. Only experiment can show whether the results of such measurements are the same, and the extent to which they remain the same as we deal with increasing distances. Hence what is asserted of a concept in one context need not necessarily hold of it in a wider or a narrower one. It is therefore useless to try to understand the concept merely by assigning properties to it (for example, by stating that length is distance in one dimension through space).

In his present book Professor Bridgman's point of view has mellowed considerably. He no longer rules out as meaningless all statements and questions that do not conform to his criterion. Many questions, he finds, arise from the reiteration of verbal patterns which in that case issue in nothing more than feeling. He is as set as ever against "mystical" thinking, but realizes more clearly that the distinction between operations and

properties is not absolute. It represents rather a distinction in any investigation between the analyzable and unanalyzable. "We are usually on a level higher up, where we accept our ability to perform a certain operation as an unanalyzable, although if we were pushed to describe in words exactly what operation it is that we are performing we would probably describe it in terms of properties which we would not know were possible or not" (p. 110). The upshot should be that the operational method is fundamentally a way of discovering the basis of common agreement in an investigation and of securing strict conformity to that agreement throughout the investigation. That Professor Bridgman's remarks point to this conclusion will give no solace to those flippant writers who have used his weapons to cast ridicule upon any question they did not care to face. Perhaps they may be comforted by Professor Bridgman's own failure to make the conclusion explicit, as well as by the dilettante fashion in which he applies his method.

There are many applications which might fruitfully have been carried out. Thus Professor Bridgman might have taken social concepts like property or democracy and analyzed the operations by which we test for their presence. He might have shown the difference between the measurements of democracy in a face-to-face group and its tests in a large society, just as he studied the various measurements of length. He might have examined beliefs with regard to property (for example, that a man should be allowed to do what he wants with his own property) and shown that beliefs which may hold where the property is worth a few hundred dollars cannot permit of extrapolation as the amount increases to billions. I am suggesting, in short, that Professor Bridgman has an excellent tool for reformulating in the language of scientific method problems about society that have been stated in much less precise terminology. From the fact that he has failed to carry out this task, it must not be inferred that the method is a fruitless one.

The intelligent individual, as Professor Bridgman paints him, turns out to be a colossal egoist. His conscious experience is all that he is ever aware of, and nothing matters except what he is aware of. There is no reason why he will not employ any anti-social method of force to secure his own ends if he can get away with it and if such force is intelligently adapted to his tastes. He is always alive because there is no operation of his by which he can decide that he is dead!

Professor Bridgman denies that he is presenting the traditional version of solipsism. The present reviewer fails to see what else it is, unless it is a grand tautology to the effect that my knowledge is primarily *my* knowledge. Certainly many of the remarks Professor Bridgman makes on this

question are "footless" (his politer substitute for meaningless) on his own criteria. The same difficulty arises in his discussion of the motivation of conduct. He speaks at times as if the only legitimate content of values were egoistic individual wants, and any present wanting of something "noble" mere self-deception. The only justification offered for such a view turns out to be that "the springs of my conduct are *my* springs" (p. 155). The pointlessness of this as an explanation of conduct is made evident in a later statement that if a man is so constituted as to take his supreme satisfaction in giving pleasure to others he would be a fool not to spend his life at that task. In his examples Professor Bridgman tries hard to be a bad boy using a pea-shooter at the preacher during the sermon. The reader is much surprised to discover that the result is the offer of a compromise "not to demand or allow for myself as an individual any privileges which, if assumed by everyone, would result in a kind of society that I cannot contemplate with satisfaction" (p. 280).

In the light of the criteria laid down by Professor Bridgman's method it can only be concluded that he exercises a mystical preference for the individual. This is clear not only in his remarks on knowledge and conduct but also in his explanatory comments on individual behavior. There is an over-facile resort to such phrases as "the individual is so made that . . . ," "individuals are so constituted that . . . " He explains his own social compromise, for instance, by the fact that he is the kind of person who finds satisfaction in seeing things fit into a larger scheme. Such explanation is especially misleading in the light of the results of contemporary social science. It is clear enough that an individual's general emphasis in matters of value is not to be explained in terms of his individual constitution, but depends on social conditioning. ("Social" is not used here to designate a super-spook but merely indicates summarily the character of numerous pressures on the growing individual.) The egoistic individualism of Professor Bridgman's intelligent individual is not the product of intelligence as such, but is a characterstic engendered by institutions involving extreme competition and the sharpening of individualistic isolation in theory and conduct. To the extent that the reader dislikes this character, he is passing judgment on the social forces that produce it. This does not mean that he is misled by non-operational thinking. For from the point of view of a naturalistic or materialistic philosophy all types of character, both those who react like Professor Bridgman's "intelligent" man and those who have different values, are social products.

The book contains many pleasant notions, but it is scarcely a contribution to the application of scientific method or scientific attitudes to the

study of society. There is even a danger that it will contribute to the growing anti-scientific movement. The casual reader, seeing the results and taking Professor Bridgeman's authority for their scientific character, may be tempted to say "So much the worse for science."

ABRAHAM EDEL

*Three Ways of Modern Man,* by Harry Slochower. With a Foreword by Kenneth Burke. New York: International Publishers, 1937. $1.50. Pp. 240.

*Thomas Mann's Joseph Story,* An Interpretation by Harry Slochower. With a Biographical and Bibliographical Appendix. New York: Knopf, 1938. $1.00. Pp. 109.

Every work of art bears the visible imprint of the age in which it was made. Babbitt is as unmistakably stamped with the label of machine-age Main Street as Marlowe's grandiose, lyric, and sky-storming Tamburlaine flaunts the palette of the Renaissance. Minor art tends to reflect the mere décor of its age, its color and surface and idioms, with perhaps a dash of its more superficial problems, or to cling to its backward eddies and dreams; but major art seeks to realize the most powerful impulses of its times, to grasp and embody those dynamic forces that mold every period to its characteristic contours. Not always is this done by way of direct and literal representation: sometimes by a poetic imagery, a symbolism, that draws into its pattern the transcendental overtones of a period rather than its immediate scene. It is such a suffusion with the compulsive values of their times that marks the work of the major artists, and gives their profound significance to a Michelangelo, a Milton, a Dostoevsky.

In ages relatively stable, art may reflect, like the intricate richness of the medieval cathedrals and the ordered cosmology of Dante, a unified vision of man in the universe, a harmonious resolution of all its voices in a single dominant chord. But in times of rapid change and confusion, like the present, marked by warring interests and sectarian hates, it is apt to be the clamor of contention that swells through art, the struggle of antagonistic forces. Attaining a symbolic existence in the work of art, it is the history of our times that we may read there: some of it mere froth and bubble on the surface of a wave, some of it a plumbing and measuring of the currents that may determine whether we steer to triumph or disaster.

It is for these reasons that Dr. Slochower has chosen in *Three Ways of*

*Modern Man* to analyze three significant artists of our age: novelists whose work reflects with a special richness the dialectical difficulties of contemporary society. Sigrid Undset, Thomas Mann, and Martin Anderson Nexö represent three contrasted attitudes toward that society, three schemes of values brought to bear upon it. Contemplating, understanding, and evaluating them, we should be able to achieve an enhanced awareness of the nature of our world and of the contending values to which we are asked to give our loyalty, a clearer understanding of the direction we want to take and how to follow it.

They portray the world in different ways. Nexö renders modern industrial society by a technique of contemporary realism, Mann by a Magic Mountain in which its ideal forces are partly symbolized and partly translated into ideological statement, Undset by a retrospective creation of an imagined past with nostalgic rejection of the present. The different attitudes that they exemplify Slochower identifies in reverse order as a retreat to "feudal socialism," an embodiment of "bourgeois liberalism," and a call to "socialist humanism." The first is traditional and Catholic, glorifying the pre-industrial stage out of distrust for industrialism; the third militant, positive, and receptive to technology; the second represents a tolerant and skeptical mean between these absolutes. It is libertarian and individualistic, yet constantly impelled under pressure of modern social forces toward one or the other extreme.

Sigrid Undset signalizes both her rejection of modern industrialism and her glorification of the past in *Kristin Lavransdatter.* Set in the Norway of six hundred years ago, her theme is the breakdown of the medieval synthesis: the crumbling of a paternal agrarianism before a new feudalism of absentee ownership and bourgeois commerce, the decay of the old collectivism of the family and obedience to the hierarchies of Church and overlord under the onslaughts of Protestant Renaissance freedom. Wayward with rebelliousness, Kristin defies religion and convention in her lawless passion for Erlend, asserting the anarchistic claims of self over those of family and the community. But the directionless wild of individualism leaves her spirit alone in a bare, dark world over whose waste places there blows nothing but a chill wind of death; and her life becomes a long retreat into the comforting arms of Mother Church. Only in that haven and its safe guidance can Undset find a home for the lonely spirit of man.

It is with little of Undset's romantic yearning for what has vanished that Thomas Mann portrays the decay of liberalism and its culture. His Magic Mountain is an epiphenomenon of the flatland world below, but the intellectuals and esthetes and fevered decadents breathing its thin

air are hollow and deracinated, endlessly philosophizing without action, empty appearances of impressiveness and beauty eaten away within. Haus Berghof epitomizes pre-War Europe: outwardly flourishing, tainted with disease. In it Settembrini "stands for the Mediterranean, classic, humanistic tradition, wedded to a political republicanism," pleading "for the efficacy of reason against the impotence of mysticism and superstition." Settembrini constantly argues that the intellectual and the artist must not divorce themselves from the concrete daily scene, but he too remains isolated on the Magic Mountain, pointing no course for their action to take. His constant antagonist, Naptha—Jew, Jesuit, medievalist, apostle of mysticism and faith and at the same time student of Hegel and Marx—is "the profound composite symbol of the middle class" harboring within itself all the contradictory elements of reaction and revolution, modernism and medievalism, pragmatism, Catholicism, communism, and fascism. Both these talkers, however, are reduced to insignificance and artificiality by Mynheer Peeperkorn, the gigantic but now impotent embodiment of the vital force bourgeois capitalism once expended. Not an industrialist, Peeperkorn "is an *agrarian* capitalist," personifying "the sunset of the commercial ethic," and it is significant that he commits suicide *before* the War. As that catastrophe sweeps closer, a wave of hysteria, exacerbated nerves, and angry passions descends over these symbols of cultured Europe: it is the bankruptcy of bourgeois liberalism. Mann draws to a close explaining that nowhere in this world has his young hero been able to find any satisfaction for his ideal aspirations, and nowhere, "out of the depths of his time, any reasonably satisfying explanation of the meaning and purpose of man's life."

Save in the positive implications of his criticism, it might appear therefore that Mann's position was defeatist; that he had no desire to return to the past, no belief that any such return was possible, and saw no way into the future; that he has simply diagnosed with terrible brilliance the sickness of modern Europe and depicted an inevitable dance of death. But, as Slochower is careful to point out, this is not so. For one thing, the novel is "a criticism of its 'hero' and, since Thomas Mann himself took Castorp's way, the work becomes a criticism of the author of the criticism." For another, Castorp's experiences are not lost on him; he goes on to what must of need be a qualitatively different mode of experience; if he has been a "Seven-Sleeper" he is so no longer, and his awakening symbolizes Mann's awakening from his political sleep.

That awakening Slochower analyzes more closely in *Thomas Mann's Joseph Story,* a brief volume which is in part a supplement to the longer study. The quiet musical pessimism that hovered over Mann's rendering

of Western decay in *Buddenbrooks* and *The Magic Mountain* now glows with a dawn of resurrection. No longer "sick of knowledge," like the artists of his earlier stories, Mann can now speak of "a smiling knowledge of the future"; and although Joseph is one of the long line of his artist-personalities, unlike them he is not sick, not a twentieth century problem-child of disease. And although like them Joseph is an individualist, with the egotism of the artist, he is reborn by his descent into the pit to a realization of social responsibility in an objective world. Paralleled by Mann's own recent political declarations, this novel symbolizes the merging of Faustian individualism into social humanism. Like Faust, Mann now desires to strive for the day when he may stand *"amid* free folk on free soil."

It brings Mann, in fact, as he himself recognizes, very near the point where bourgeois liberal idealism "merges into world-collectivism and, if the term is understood generally enough and undogmatically—into communism." No longer frozen into inactivity upon the mountain of esthetic-icism, he is ready to come down into the flatland world of Nexö. Slochower is less vivid and striking in his treatment of the Danish novelist, partly, I feel, because Nexö himself, as Slochower points out, did not solve the problem of his work as successfully as either Mann or Undset. *Pelle the Conqueror,* although one of the first and most moving of proletarian novels, suffers in certain ways from its pioneering qualities, especially in its conclusion; and Slochower indicates how its ideological weaknesses are linked with its esthetic ones. Slochower very revealingly and valuably shows, however, how filled this thoroughly "realistic" novel is with significantly symbolic elements.

The highest merit in Slochower's critical achievement flows partly from his plan and partly from his sensitive appreciation and insight into literature. The plan gives him elbow-room in which to work; it enables him, as no hurried abstraction and no crowding together of mere *lists* of classified writers possibly could, to recreate and convey imaginatively the flavor of a work of art. His conceptual translation of its significance is thus always based solidly on a concrete realization of its qualities instead of falling into that dangerous trap of intellectual analysis, the construction of mental diagrams lacking the breath of life. And he has so deeply responded to and sympathetically portrayed the works he analyzes, that his criticism, coming *"atop* his admiration," as Kenneth Burke justly remarks in his Foreword, carries especial conviction. It should be noted, further, that Slochower does not falsify by simplification. He carefully shows these writers "implicitly paying tribute to the standpoints they seem to oppose:" including within their sympathies elements

"even inimical to the central 'thesis'." Undset's "thesis," for example, is obedience and Christian resignation, but her art paints the godly way as bringing suffering and injustice and its values as leading toward death. The complex irony of *The Magic Mountain* arises in the same way from the need of doing justice to conflicting elements within its own orientation.

It is out of Slochower's ability to understand and present the need for such complex minglings of sentiment in human nature that his conclusion is born. It is a plea for a fusion in these three perspectives, not in the sense of "an indiscriminate merging," but of "a higher synthesis of elements analogous in spirit." Undset's "godly member of a communal group" is not inconsistent with Mann's hope of a balanced "homo dei." The vision of an ideal collectivism "is the binding link between Undset and Nexö, the ground on which Catholicism and Socialism can meet." "The criticism of the commercial ethic, begun by religion, is completed by socialism." Undset's and Mann's characters must leave their monastic retreats from the world, their ivory-tower mountain of passive contemplation, and descend into the struggle for existence. And reciprocally Pelle must spend his seven years on the Magic Mountain, transformed by an organic and responsible relation to the world below into "a natural mountain as well, where flatland work interchanges with metaphysics and music." This is a wise and luminous final note in a book rich with insight.

EDGAR JOHNSON

*Selected Works,* by Karl Marx, Moscow: Cooperative Publishing Society of Foreign Workers in the U.S.S.R. New York: Bookniga. 1935-1938. $2.50. 2 vols.: pp. 479, 694.

Marx wished nothing better than that his works could be issued at a price within the reach of the masses. When his French publisher of the translation of the first volume of *Capital* proposed a plan by which this masterpiece would be made available to the workers, Marx seized on the idea at once and replied, "to me this consideration prevails over all others." The present two volumes are, in a sense, a sincere attempt to realize Marx's hope, for they encompass a veritable Marxist library for less than the price of a popular novel. The editors of the Marx-Engels-Lenin Institute have assembled in the *Selected Works* the principal writings of Marx, together with a few by Engels, on the salient theoretical and political questions of the nineteenth century. Prefacing them are the reminiscences of Marx by Engels, Lafargue and Liebknecht. Lenin's three excellent studies on Marx,

and Stalin's pointed comments on Marxism in relation to the crucial problems of our time. All of these are valuable not only for their bearing on Marx as a person, but also for their succinct analysis of Marxism as a living doctrine.

The list of all that is contained in the present edition is too long to be detailed here, but reference to some of the better known studies of Marx and Engels would not be out of place. There is, of course, Engels' *Socialism: Utopian and Scientific* which forms three chapters in his *Anti-Dühring* and which met with such surprising success after its first appearance in French that within somewhat more than a decade it was circulating in ten languages. In the entire literature on the evolution of socialist theory there is nothing more concise and more lucid than this pamphlet of Engels. Though written long after *The Communist Manifesto,* it may be considered today its best historical preface.

*The Communist Manifesto* did not meet with such immediate success as the separately published three chapters from *Anti-Dühring.* Written as the program of the Communist League in February, 1848, it was greeted only by a small group which at that time formed the vanguard of scientific socialism. The victory of reaction following the Paris June Days drove it into the background. It did not begin to rise to its present eminence until after the Paris Commune, when the emerging socialist parties on the Continent turned to Marxism for their guidance. Today *The Communist Manifesto* is the most widely circulated product of all socialist literature. It is the clearest, the most compact, the most stirring and the most influential Communist document that has ever been penned. Stylistically it leaves nothing to be desired. It ranks deservedly among the world's literary masterpieces.

Of Marx's work on economics, there are reprinted the lectures, *Wage, Labor and Capital,* given before the Workers' Club in Brussels in 1847, and *Value, Price and Profit,* delivered at the General Council of the First International, in which the wage theory of the old Owenite, John Weston, was subjected to an annihilating criticism. Both of these studies will introduce the reader to Marx's economic theories which he developed fully in *Capital.* A section of Chapter XXXII in the first volume of this latter work is reproduced in the *Selected Works.* Here Marx expounds the general law of contradictions, inherent in the developing capitalist society, and demonstrates the inevitability of its collapse and of the expropriation of the expropriators. All the theoretical objections of bougeois economists and of revisionists have proved ineffective in challenging the validity of this economic law, which points directly to a planned society through the dictatorship of the proletariat.